

News Report

NATIONAL ACADEMY OF SCIENCES • NATIONAL RESEARCH COUNCIL • NATIONAL ACADEMY OF ENGINEERING

1973 News Report Index

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News Report records the major activities of the National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council. It is published monthly except for combined June-July and August-September issues.

This index is intended insofar as possible to provide a digest of the contents of the 1973 issues of *News Report*. Because the publication is devoted in large measure to discussion of reports issued by committees and panels of these organizations, principal entries generally are listed by title of report discussed (not

by title of *News Report* article), alphabetically. Names of persons, organizations, and agencies also are listed alphabetically. Subject headings and cross-references are included for topics of particularly wide interest (e.g., energy, environment, transportation).

The 1974 index will be issued shortly after the end of the year. Copies of the 1971 and 1972 indexes are available from the *News Report* office. The *News Report Index* is compiled by Gay Mackintosh.

Abelson, Philip H., of Carnegie Institution of Washington, elected to NAS Institute of Medicine—Aug-Sep, 9

Academy Forum: the first of a series of public forums to identify major scientific and technological questions inherent in public policy issues convened by the National Academy of Sciences May 15, 1973, to consider "How Safe is Safe? The Design of Policy on Drugs and Food Additives"; the Forum series brings together representatives of various publics affected by these issues for discussion and questioning by a Panel of Inquiry, composed of NAS members, and by the general audience—Apr, 2; second public forum convened January 29-30, 1974, under the general title "Energy: Future Alternatives and Risks"—Dec, 1

Adams, Robert McCormick, dean of Division of Social Sciences at University of Chicago and NAS member, appointed chairman of the NRC's new Assembly of Behavioral and Social Sciences—Apr, 6

Agricultural Board, National Research Council: formerly in the NRC Division of Biology and Agriculture (most of whose programs and committees have been taken over by the new Division of Biological Sciences in the NRC Assembly of Life Sciences), the Agricultural Board has been transferred to the NRC Commission on Natural Resources as part of the NRC reorganization plan—Nov, 3

Agriculture, U.S. Department of: requested NRC advice on strategies to maintain strong U.S. food and fiber industry while minimizing environmental conflicts; in partial response, NRC Subcommittee on Chemical Additives published conference proceedings *Degradation of Synthetic Organic Molecules in the Biosphere: Natural, Pesticidal, and Various Other Man-Made Compounds*—Jan, 1

Ahrens, Edward H., Jr., of Rockefeller University and Cornell University Medical College, elected to National Academy of Sciences—May, 2; elected to NAS Institute of Medicine—Aug-Sep, 9

AID—see International Development, U.S. Agency for

Air Quality Studies, Coordinating Committee on, responsible to NRC Commission on Natural Resources, monitors and coordinates studies undertaken within the structure of the National Academy of Sciences which relate to air-quality and emissions standards and effects of air pollution—Dec, 4

Alaska Earthquake, Committee on, National Research Council Division of Earth Sciences: issued panel report *The Great Alaska Earthquake of 1964: Engineering*, part of the series begun at White House request in 1964 and detailing the region, the event, and the lessons of the experience for science, technology, public policy, and public administration—Jun-Jul, 1; after nine years, one booklet, and eight volumes of formal report, the Committee has completed its study with the final volume *The Great Alaska Earthquake of 1964: Summary and Recommendations*—Nov, 1

Albanian People's Republic Academy of Sciences: U.S. National Academy of Sciences welcomed establishment of the new Albanian Academy in a November 1973 letter from NAS President Handler to Albanian Academy President Aleks Buda—Dec, 1

Alberty, Robert A., of Massachusetts Institute of Technology, elected to NAS Institute of Medicine—Aug-Sep, 9

Allard, Robert W., of University of California at Davis, elected to National Academy of Sciences—May, 2

Alternative Sources of Protein for Animal Production, proceedings of 1972 symposium sponsored jointly by American Society of Animal Science and NRC's Committee on Animal Nutrition, report examines problems of protein feed supply for livestock and summarizes several approaches in the quest for protein: changes in patterns of oilseed use; better utilization of animal by-product material processed for human and animal food; development of practical means to separate protein from fiber in forage crops and to improve protein quality and yield of cereal grains; development of favorable production economics to recycle animal wastes for

additional protein in livestock feed—Aug-Sep, 1, 6

Ambartsumian, V. A., chairman of Soviet Organizing Committee for international conference held in September 1971 under a bilateral agreement between the U.S. National Academy of Sciences and the Academy of Sciences of the U.S.S.R.; quoted in excerpts from conference proceedings *Communication with Extraterrestrial Intelligence*—Dec, 6

American Philosophical Society: sponsors jointly with National Academy of Sciences and the Smithsonian Institution an anticipated 15-volume project *The Papers of Joseph Henry*, with support from the National Science Foundation—Feb, 6

Anderson, Odin W., of University of Chicago, elected to NAS Institute of Medicine—Aug-Sep, 9

Animal Health, NRC Agricultural Board Committee on, Subcommittee on Aquatic Animal Health has issued its report *Aquatic Animal Health*—Nov, 2

Animal Nutrition, NRC Committee on, joint sponsor with American Society of Animal Science of a 1972 symposium examining problems of protein feed supply for livestock, proceedings now published as *Alternative Sources of Protein for Animal Production*—Aug-Sep, 1

Aquatic Animal Health, NRC Agricultural Board's Committee on Animal Health, subcommittee report follows its review of "the status and future potential of proteins of aquatic animal origin," and evaluation of problems in maintaining aquatic animal health to protect these food sources. Since dangers to aquatic species may imply "hazard to the health and nutritional well-being of man," report recommends improved national and international management to regulate the catch; research to anticipate future aquatic animal health problems, particularly diseases resulting from changing environments; efforts to secure international agreements for effective disease control; adequate training programs supported by Federal, state, and

private grants-in-aid to produce personnel competent to prevent, diagnose, control, and conduct research on aquatic animal diseases; a national fish and shellfish disease recording center; and a Federal advisory council to delineate needs and priorities in this field—Nov, 2-3

Armistead, W. W., of Michigan State University College of Veterinary Medicine, elected to NAS Institute of Medicine—Aug-Sep, 9

Astronomy and Astrophysics for the 1970's. Volume 2: Reports of the Panels, NAS Astronomy Survey Committee, reports from Panels on Astrophysics and Relativity, Radio Astronomy, Optical Astronomy, Infrared Astronomy, Space Astronomy, Solar Astronomy, and Theoretical Astrophysics reveal major trends to be expected in astronomical and astrophysical research and underlie the Committee's finding of an "extraordinary" convergence of discovery, instrumentation, and rethinking of the universe as a whole new sea of unknowns. New or refined observational techniques "have converted cosmology into an observational science" although "the major cosmological questions still remain unsolved"—Apr, 1, 4-5

Astronomy Survey Committee, National Academy of Sciences, 1972 report *Astronomy and Astrophysics for the 1970's* surveying the state of the field has been followed by *Volume 2: Reports of the Panels*—Apr, 1, 4-5

Atmospheric Research, U.S. National Center for, planned Project Wamflex (Wave-Induced Momentum Flux Experiment); U.S. Committee for the Global Atmospheric Research Program report *Plan for U.S. Clear-Air Turbulence Research* urges U.S. Defense Department to provide at least two additional aircraft for vertical motion measurements—Feb, 1

The Atmospheric Sciences and Man's Needs, 1971 report of NRC's Committee on Atmospheric Sciences found weather modification techniques sufficiently advanced to warrant a warning that "national policy . . . minimize the possibility that any country might undertake to modify weather for military purposes" and recommended examination of public-policy issues—Aug-Sep, 4

Atmospheric Sciences, NRC Committee on, issued 1966 report *Weather and Climate Modification: Problems and Prospects*, 1971 report *The Atmospheric Sciences and Man's Needs*, and 1973 report *Weather & Climate Modification: Problems and Progress*—Aug-Sep, 4

Atomic Energy Commission, U.S.: table of "Federal Budgeting for Physics Research, Fiscal 1974, Selected Major Programs" reprinted from NAS Physics Survey Committee report *Physics in Perspective, Volume II* shows operating expense budget estimates for AEC physical research and controlled thermonuclear research programs—Feb, 5

awards, National Academy of Engineering: D. L. Bitzer received Vladimir K. Zworykin Award for work on use of computers in education—Jun-Jul, 2; eighth Founders Medal was awarded to W. K. Lewis—Oct, 2

awards, National Academy of Sciences: J. Lawrence Smith Medal was awarded to C. C. Patterson, Comstock Prize to R. H. Dicke, Mary Clark Thompson Medal to H. D. Hedberg, Jessie Stevenson Kovalenko Medal to S. S. Kety, U.S. Steel Foundation Award in Molecular Biology to D. D. Brown, G. K. Warren Prize to L. B. Leopold, NAS Award in Aeronautical Engineering to D. W. Douglas, Sr., NAS Award in Applied Mathematics and Numerical Analysis to S. Karlin, Benjamin Apthorp Gould Prize to K. I. Kellermann,

NAS Award for Environmental Quality to W. T. Edmondson, NAS Award for Distinguished Service to H. Odishaw (1972) and W. N. Carey, Jr. (1973)—May, 5

Aydelotte, Myrtle K., of University of Iowa Hospitals and Clinics, elected to NAS Institute of Medicine—Aug-Sep, 9

Babcock, Horace W., director of Hale Observatories, elected to NAS governing Council for 3-year term beginning July 1, 1973—May, 1

Bailey, Percival, NAS member, died August 10, 1973—Oct, 6

Bailey, Stuart L., of Atlantic Research Corp., elected to National Academy of Engineering—May, 6

Balchum, Oscar J., of University of Southern California Medical School, participated in October 1973 conference convened by NRC Assembly of Life Sciences as noted in report *Conference on Health Effects of Air Pollution: Summary of Proceedings*—Dec, 4

Ballhaus, William F., of Beckman Instruments, Inc., elected to National Academy of Engineering—May, 6

Banks, Harvey O., of Harvey O. Banks, Consulting Engineers, elected to National Academy of Engineering—May, 6

"BART Impact Program," impact study of the San Francisco Bay Area Rapid Transit system has begun, supported by U.S. Department of Transportation, U.S. Department of Housing and Urban Development, and State of California, and advised by NAE BART Impact Advisory Committee established at Department of Transportation request; study is intended to determine the results of money expended in connection with BART, how maximum benefits can be realized, and what lessons are transferable to other regions and programs for use by urban planners and public officials—Jan, 2

Basic Research in Education, Committee on (COBRE): sponsored jointly by the National Academy of Sciences and National Academy of Education with support from U.S. Office of Education; operated under NRC's Division of Behavioral Sciences from 1967 to 1972; results of eight COBRE-sponsored research workshops being published—*News Report* includes excerpts from *Language Comprehension and the Acquisition of Knowledge: State, School and Politics: Research Directions; Investment in Education: The Equity-Efficiency Quandary; and Coding Processes in Human Memory*—Jun-Jul, 8-9

Bateman, Mildred M., of West Virginia Department of Mental Health, Charleston, elected to NAS Institute of Medicine—Aug-Sep, 9

Beckler, David Z., former assistant director of NAS Office of Science and Technology, appointed a staff assistant to the NAS president—Nov, 3

Beddingfield, Edgar T., Jr., of Wilson Clinic, N. C., elected to NAS Institute of Medicine—Aug-Sep, 9

Beggs, James M., Undersecretary of Transportation, quoted on U.S. Department of Transportation hopes for "BART Impact Program"—Jan, 2

Behavioral and Social Sciences, Assembly of, National Research Council: formed February 1, 1973, as part of an extensive NRC reorganization plan, the Assembly supersedes the

former NRC Division of Behavioral Sciences with a broader mandate to develop coherent programs and manage the advisory activities of NAS in the behavioral and social sciences—Apr, 1, 6; appointed to the executive committee are R. M. Adams (chairman), H. David (executive director), P. E. Converse, R. A. Dahl, A. Inkeles, L. B. Lave, G. Lindzey, R. D. Luce, J. N. Morgan, C. Pfaffmann, H. A. Simon, R. M. Solow, and R. M. Williams—Apr, 6

Bekele, Maaza, Ethiopian planner, participated in 1971 international conference initiated by NRC Food and Nutrition Board; quoted from conference proceedings *Nutrition, National Development, and Planning*—Aug-Sep, 7

Benson, Andrew A., of Physiological Research Laboratory and Scripps Institution of Oceanography, elected to National Academy of Sciences—May, 2

Bergstrom, Sune, dean of Medical Faculty, Karolinska Institutet, Sweden, elected NAS foreign associate—May, 3

Bern, Howard A., of University of California at Berkeley, elected to National Academy of Sciences—May, 2

Biological Impacts of Increased Intensities of Solar Ultraviolet Radiation, ad hoc panel report to NAS-NAE Environmental Studies Board calls for research to ascertain with greater specificity the biological effects of solar UV radiation, which may cause skin injury or cancers as well as unwanted changes in plant growth, insect behavior, and marine life, particularly plankton; implications of the possibility that UV reaching the earth's surface might be increased by effects of future supersonic-transport exhaust on the earth's ozone shield warrant concern and study—Feb, 1

Bishop, George H., NAS member, died October 11, 1973—Nov, 4

Bisplinghoff, Raymond, resigned from NAE governing Council in 1972 (succeeded by D. N. Frey) to become deputy director of National Science Foundation—Oct, 2

Bitzer, Donald L., of University of Illinois at Urbana-Champaign, received Vladimir K. Zworykin Award of the National Academy of Engineering for his development and application of computer-based teaching and visual-display systems—Jun-Jul, 2

Bjork, Robert A., quoted in excerpt from *Coding Processes in Human Memory*, proceedings of a 1971 COBRE research workshop—Jun-Jul, 9

Bjorken, James D., of Stanford University, elected to National Academy of Sciences—May, 2

Bold, Harold C., of University of Texas, elected to National Academy of Sciences—May, 2

Bonner, John T., of Princeton University, elected to National Academy of Sciences—May, 2

Borchert, John R., of University of Minnesota, quoted from joint report with F. E. Horton in NAS-NRC symposium proceedings *Geographical Perspectives and Urban Problems*—Mar, 6

Bormann, Frederick H., of Yale University, elected to National Academy of Sciences—May, 2

Bowen, Ira S., NAS member, died February 6, 1973—Mar, 3

Bower, Gordon H., of Stanford University, elected to National Academy of Sciences—May, 2

Box, Thadis W., of Utah State University, chaired NRC Study Committee on the Potential for Rehabilitating Lands Surface Mined for Coal in the Western United States report—

- ing on *Rehabilitation Potential of Western Coal Lands*—Nov, 6
- Brooks, Harvey, of Harvard University, elected to NAS Institute of Medicine—Aug-Sep, 9
- Brooks, Norman H., of California Institute of Technology, elected to National Academy of Engineering—May, 6
- Browder, Felix E., of University of Chicago, elected to National Academy of Sciences—May, 2
- Brown, Burton P., of General Electric Company, elected to National Academy of Engineering—May, 6
- Brown, Donald D., of Carnegie Institution of Washington and Johns Hopkins University, elected to National Academy of Sciences—May, 2; awarded *U.S. Steel Foundation Award in Molecular Biology* at 110th NAS annual meeting—May, 5
- Brown, Harrison, NAS Foreign Secretary, quoted in regard to NAS panel report *U.S. International firms and R, D & E in Developing Countries*—Oct, 5; appointed first chairman of NRC's new Commission on International Relations—Nov, 3
- Bryson, Arthur E., Jr., of Stanford University, elected to National Academy of Sciences—May, 2
- Buchsbaum, Solomon J., of Bell Telephone Laboratories, Inc., elected to National Academy of Engineering—May, 6
- Buda, Aleks, president of the new Academy of Sciences of the Albanian People's Republic, received Nov. 5, 1973, welcoming letter from U.S. National Academy of Sciences—Dec, 1
- Budiansky, Bernard, of Harvard University, elected to National Academy of Sciences—May, 2
- Bueche, Arthur M., of General Electric Co., co-chairman (with P. Morrison) of NAS program "Energy: Future Alternatives and Risks," convened January 29-30, 1974, as the second Academy Forum—Dec, 1
- Building Research Advisory Board, National Research Council, advisory committee has begun a study of fire loads in large buildings, with support from Public Buildings Service of the U.S. General Services Administration—Jan, 1
- Butler, Lewis H., of University of California Health Policy Programs, San Francisco, elected to NAS Institute of Medicine—Aug-Sep, 9
- Cahn, John W., of Massachusetts Institute of Technology, elected to National Academy of Sciences—May, 2
- Calabresi, Guido, of Yale University Law School, elected to NAS Institute of Medicine—Aug-Sep, 9
- Caldwell, Joseph M., Office of the Chief of Engineers, U.S. Army, elected to National Academy of Engineering—May, 6
- Calvert, Jack G., of Ohio State University, participated in October 1973 conference convened by NRC Assembly of Life Sciences as noted in report *Conference on Health Effects of Air Pollution: Summary of Proceedings*—Dec, 4
- Campbell, Donald T., of Northwestern University, elected to National Academy of Sciences—May, 2
- Campbell, Ian, of California Academy of Sciences, chaired NRC Committee on Geological Sciences reporting on *The Earth and Human Affairs*—Jan, 6
- Cannon, Robert H., Jr., of U.S. Department of Transportation, elected to National Academy of Engineering—May, 6
- Cantlon, John E., of Michigan State University, named to serve on NRC's new Commission on Natural Resources—Apr, 7
- Caplan, John D., of General Motors Research Laboratories, elected to National Academy of Engineering—May, 6
- Carey, William N., Jr., received *NAS Award for Distinguished Service* for 1973 at 110th NAS annual meeting—May, 5
- Carmichael, Leonard, NAS member, died September 16, 1973—Oct, 6
- Carpenter, Richard, served as executive director of Environmental Studies Board, has been named executive director of the NRC's new Commission on Natural Resources—Apr, 7
- Carroll, John B., and Roy O. Freedle, editors of *Language Comprehension and the Acquisition of Knowledge*, proceedings of a 1971 COBRE research workshop; quoted in excerpt from report—Jun-Jul, 8
- Cermak, Jack E., of Colorado State University, elected to National Academy of Engineering—May, 6
- Chambers, Carl C., University of Pennsylvania Professor of Engineering, chaired panel of NRC's Maritime Transportation Research Board reporting on *Research and Education for Maritime Progress*—Mar, 4
- Chanock, Robert M., of National Institute of Allergy and Infectious Diseases and George Washington University, elected to National Academy of Sciences—May, 2
- Charyk, Joseph V., of Communications Satellite Corp., elected to National Academy of Engineering—May, 6
- Chemical Additives, Subcommittee on, NRC Committee on Agriculture and the Environment, organized 1971 symposium, proceedings published as *Degradation of Synthetic Organic Molecules in the Biosphere: Natural, Pesticidal, and Various Other Man-Made Compounds*—Jan, 1
- The Child with an Acquired Amputation*, proceedings of a conference convened by the NRC Subcommittee on Child Prosthetics Problems on treatment and care of child amputees includes a call for attention to the causes of injuries leading to amputations, so that accidents involving such hazards as unsafe recreation equipment, firecrackers, and railroad yards may be prevented—Jan, 8
- Chow, Ven Te, of University of Illinois, Urbana, elected to National Academy of Engineering—May, 6
- Civil Manned Undersea Activity: An Assessment*, report prepared under joint auspices of NAE's Marine Board and NRC's Ocean Affairs Board follows a 1972 workshop jointly convened at National Oceanic and Atmospheric Administration request to examine the role of civil manned undersea activity (MUA) in relation to U.S. national interests. Report finds MUA useful but limited in application when cost-benefit comparisons are made with surrogate (unmanned) systems. "The primary current goal should be to bring more coherence to the limited MUA community now in existence, including Navy programs and foreign activities," while report urges longer-term goals of encouraging government support for national facilities and research programs on science-technology applications of civil MUA—Dec, 2-3
- Clarke, Frederick J., Office of the Chief of Engineers, U.S. Army, elected to National Academy of Engineering—May, 6
- Clauser, F. H., ended term on NAE governing Council—Oct, 2
- Clean Air Amendments of 1970 (Public Law 91-604), directed U.S. Environmental Protection Agency to contract with National Academy of Sciences for a comprehensive study of technological feasibility of meeting the motor vehicle emissions standards prescribed by the law; NRC study resulted in *Report by the Committee on Motor Vehicle Emissions*—Mar, 2
- Clogston, Albert M., of Sandia Corporation, elected to National Academy of Sciences—May, 2
- Coal-Gasification Technology, NAE-NRC *Ad Hoc Panel on Evaluation of*, first of studies undertaken at request of U.S. Office of Coal Research, *Evaluation of Coal-Gasification Technology, Part 1: Pipeline-Quality Gas*, recommends Federal support for pilot-plant development of four coal-gasification processes; second panel report will cover technical prospects for coal-conversion to lower-Btu gas suitable for utility boilers—Jan, 2
- Coal Research, U.S. Office of, received NAE-NRC *ad hoc* panel report *Evaluation of Coal-Gasification Technology, Part I: Pipeline-Quality Gas*—Jan, 2
- Coale, Ansley J., of Princeton University's Office of Population Research, elected to National Academy of Sciences—May, 2
- COBRE—see Basic Research in Education, Committee on
- Cocks, Gary T., biochemist, appointed assistant managing editor of *Proceedings of the National Academy of Sciences*—Nov, 3
- Coding Processes in Human Memory*, proceedings of a 1971 research workshop under auspices of the Committee on Basic Research in Education of the National Academy of Education and NAS-NRC; excerpt from "Theoretical Implications of Directed Forgetting," by Robert A. Bjork—Jun-Jul, 9
- Cohen, Seymour S., of University of Colorado Medical Center, elected to NAS Institute of Medicine—Aug-Sep, 9
- Coles, Robert, of Harvard University Health Services, elected to NAS Institute of Medicine—Aug-Sep, 9
- Communication with Extraterrestrial Intelligence, CETI* (MIT Press, 1971), proceedings of a joint conference held in September 1971 by the Academy of Sciences of the U.S.S.R. and the U.S. National Academy of Sciences at Byurakan Astrophysical Observatory of the Armenian Academy of Sciences, considers the array of science necessary to the search for extraterrestrial intelligence and the value of the search in stimulating advances in such fields as astronomy, planetary sciences, evolutionary biology, and the social sciences: "such studies should provide important scientific results even when specific searches for extraterrestrial intelligence do not succeed"—Dec, 6
- Conference on Health Effects of Air Pollution: Summary of Proceedings*, prepared for U.S. Senate Committee on Public Works by a planning committee in the NRC Assembly of Life Sciences following a conference convened by the National Academy of Sciences October 3-5, 1973, as part of its evaluation and review of current information on the health effects of major air pollutants. Executive summary points up need for more and better information on the epidemiology of air pollution including the reaction products of a mixture of pollutants, but deems it prudent for health considerations to retain the present air quality standards which appear to afford a "modest" factor of safety. "Present knowledge of health effects appears to afford no

compelling basis for suggestions to either raise or lower the currently mandated primary air quality standards at this time."—Dec, 1

Consumer Product Safety Commission: unpublished report to the Commission from NRC Ad Hoc Committee to Evaluate the Hazard of Lead in Paint urges lowest practicable concentration for lead in paint sold to consumers—Dec, 1

Contrasts in Health Status, Health Services Research Study, NAS Institute of Medicine, first two volumes in the series have been issued: *Infant Death: An Analysis by Maternal Risk and Health Care*; and *A Strategy for Evaluating Health Services*—Aug-Sep, 8

Control of Rabies, Subcommittee on Rabies, NRC Agricultural Board's Committee on Animal Health, report finds rabies-control practice in the United States to be inconsistent and inadequate in many areas, and urges use of its "Compendium of Animal Rabies Vaccines" to standardize animal vaccination procedures. Report also recommends strong state or Federal measures to require vaccination of pets and urges abolition of persistent trapping or poisoning campaign for wildlife rabies control—Aug-Sep, 2

Converse, Philip E., of University of Michigan, appointed to executive committee of NRC's new Assembly of Behavioral and Social Sciences—Apr, 6; elected to National Academy of Sciences—May, 2

Copernicus, musical composition by Leo Smit and Fred Hoyle, commissioned by National Academy of Sciences with a gift from the Copernicus Society of America; premiered at April 1973 NAS meeting arranged jointly with the Smithsonian Institution to honor 500th anniversary of Copernicus' birth—Apr, 2

Cortright, Edgar M., of NASA's Langley Research Center, elected to National Academy of Engineering—May, 6

Cotzias, George C., of Brookhaven National Laboratory, elected to National Academy of Sciences—May, 2

Cowling, Ellis B., of North Carolina State University, elected to National Academy of Sciences—May, 2

Cox, Allan V., of Stanford University, former chairman of NRC Division of Earth Sciences, was succeeded by C. L. Drake—Nov, 3

Crick, F. H. C., quoted from *Communication with Extraterrestrial Intelligence, CETI*, proceedings of a joint conference of U.S. National Academy of Sciences and National Academy of Sciences of the U.S.S.R.—Dec, 6

Crow, James F., of University of Wisconsin, elected to NAS Institute of Medicine—Aug-Sep, 9

Dacey, George C., of Bell Telephone Laboratories, Inc., elected to National Academy of Engineering—May, 6

Dagley, Stanley, University of Minnesota biochemist, member of NRC Committee on Agriculture and the Environment and of its Subcommittee on Chemical Additives, quoted from symposium proceedings *Degradation of Synthetic Organic Molecules in the Biosphere: Natural, Pesticidal, and Various Other Man-Made Compounds*—Jan, 4, 5

Dahl, Robert A., of Yale University, appointed to executive committee of NRC's new Assembly of Behavioral and Social Sciences—Apr, 6

Darnell, James E., Jr., of Columbia University,

elected to National Academy of Sciences—May, 2

Davenport, Lee L., of GTE Laboratories, Inc., elected to National Academy of Engineering—May, 6

David, Henry, former executive secretary of NRC Division of Behavioral Sciences now superseded by the new NRC Assembly of Behavioral and Social Sciences, appointed executive director of the assembly—Apr, 7

David, Martin, of University of Wisconsin at Madison, succeeded J. B. Lansing as chairman of NRC study culminating in report *Environmental Quality and Social Behavior: Strategies for Research*; quoted from his foreword—Jun-Jul, 2

deaths (of NAE and NAS members and foreign associates): P. Bailey; G. H. Bishop; I. S. Bowen; L. Carmichael; J. H. Dingle; C. Eckart; J. H. Gibbon; E. R. Gilliland; F. L. Hisaw; A. H. Joy; J. Konorski; T. Lauritsen; R. F. Loeb; A. C. Logan; S. M. McElvain; P. D. McMaster; J. P. Molnar; C. S. Piggot; D. W. Richards; A. S. Romer; K. Sax; L. I. Smith; S. S. Stevens; C. E. Tilley; H. S. Vandiver; A. I. Virtanen; S. A. Waksman; D. M. S. Watson; D. M. Whitaker; B. H. Willier—see entry under individual names for date and issue reported

Defense, U.S. Department of: U.S. Committee for the Global Atmospheric Research Program panel report, *Plan for U.S. Clear-Air Turbulence Research in the Global Atmospheric Research Program*, urges Defense Department to provide additional aircraft for Project Wamflex planned by National Center for Atmospheric Research—Feb, 1; report *The S-Hemoglobinopathies: An Evaluation of Their Status in the Armed Forces* advises Defense Department to screen all armed-forces recruits, regardless of race, for evidence of any of several sickle-cell diseases—Mar, 1

Degradation of Synthetic Organic Molecules in the Biosphere: Natural, Pesticidal, and Various Other Man-Made Compounds, Subcommittee on Chemical Additives of NRC Committee on Agriculture and the Environment, proceedings of symposium held in response to U.S. Department of Agriculture request for advice on strategies to minimize environmental conflicts while maintaining strong U.S. food and fiber industries; report examines the scientific base for dealing with synthetic organics with particular attention to the state of biochemical study of pesticide and herbicide degradation, and recommends screening procedures to avoid pesticide accumulations in food chains while improving knowledge of problems of environmental persistence and the degradative capabilities and limitations of microbes—Jan, 1, 4-5

Denenberg, Herbert S., of Insurance Department, Commonwealth of Pennsylvania, elected to NAS Institute of Medicine—Aug-Sep, 9

Dennison, Charles S., former vice president of International Minerals and Chemicals Corp., chaired *ad hoc* panel of NAS Board on Science and Technology for International Development reporting on *U.S. International Firms and R, D & E in Developing Countries*—Oct, 4

Dessauer, John H., of Pittsford, N.Y., re-elected to three-year term on NAE governing Council—Oct, 2

Dicke, Robert H., of Princeton University, awarded the *Comstock Prize* at 110th NAS annual meeting—May, 5

Dingle, John H., NAS member, died September 15, 1973—Nov, 4

Djerassi, Carl, of Stanford University, elected to NAS Institute of Medicine—Aug-Sep, 9

Dorfman, Albert, of University of Chicago

School of Medicine, elected to National Academy of Sciences—May, 2; elected to NAS Institute of Medicine—Aug-Sep, 9

Doty, D. M., of Fats and Protein Research Foundation, quoted from NRC symposium report *Alternative Sources of Protein for Animal Production*—Aug-Sep, 6

Douglas, Donald W., Sr., awarded *NAS Award in Aeronautical Engineering* at 110th NAS annual meeting—May, 5

Drake, Charles L., of Dartmouth College, chairman of U.S. Geodynamics Committee, of the NRC Geophysics Research Board, reporting on *U.S. Program for the Geodynamics Project: Scope and Objectives*—Oct, 2; succeeded A. V. Cox as chairman of the NRC Division of Earth Sciences—Nov, 3

Duncan, Otis D., of University of Michigan, elected to National Academy of Sciences—May, 2

DuVal, Merlin K., Jr., of University of Arizona Medical Center, elected to NAS Institute of Medicine—Aug-Sep, 9

Earth and Human Affairs, The, Committee on Geological Sciences of NRC's Division of Earth Sciences, report on survey of the field begun in 1969 emphasizes the importance of knowledge of the earth's processes as background for public affairs: excerpts consider questions of land-use planning, man's environmental impact, use and misuse of natural resources, and future prospects. Report urges background studies of earth processes, continued basic research into their nature and history, and teaching earth sciences from a "human affairs" point of view at all educational levels. Environmental impact studies should be pursued whenever appropriate, not just in government activities, with monitoring programs to indicate actual impact of an environmental action—Jan, 6-7

earthquakes: see *The Great Alaska Earthquake of 1964: Strong-Motion Engineering Seismology: The Key to Understanding and Reducing the Damaging Effects of Earthquakes*

Ebert, James D., of Carnegie Institution of Washington, chairs new NRC Assembly of Life Sciences—Nov, 3

Eckart, Carl, NAS member, died October 23, 1973—Nov, 4

economic affairs: see *Ferrocement: Applications in Developing Countries*; *The Great Alaska Earthquake of 1964: Engineering; Investment in Education: The Equity-Efficiency Quandary*; *Man, Materials, and Environment*; *Meeting the Challenge of Industrialization: A Feasibility Study for an International Industrialization Institute*; *Nutrition, National Development, and Planning*; *Rehabilitation Potential of Western Coal Lands*; *Segregation in Residential Areas: Papers on Racial and Socio-economic Factors in Choice of Housing*; *Substitute Catalysts for Platinum in Automobile Emission Control Devices and Petroleum Refining*; *U.S. International Firms and R, D & E in Developing Countries*

Edelman, Isidore S., of University of California Medical Center at San Diego, elected to National Academy of Sciences—May, 2

Edmondson, W. Thomas, of University of Washington, elected to National Academy of Sciences—May, 2; received *NAS Award for Environmental Quality*—May, 5

education: see *Basic Research in Education*, Committee on; *Postdoctoral Training in the*

Biomedical Sciences; Research and Education for Maritime Progress

Education, National Academy of: jointly sponsored the Committee on Basic Research in Education with NAS-NRC—Jun-Jul, 8

Education, U.S. Office of: helped support Committee on Basic Research in Education, whose final report urged Office of Education to continue to sponsor grant programs in support of basic research—Jun-Jul, 8

Edwards, Adrian L., practicing physician, New York City, elected to NAS Institute of Medicine—Aug-Sep, 9

Eisenberg, Leon, of Harvard Medical School and Massachusetts General Hospital, elected to NAS Institute of Medicine—Aug-Sep, 9

elections, Institute of Medicine of the National Academy of Sciences: election of 59 new members for 5-year terms brings IOM membership to 210—Aug-Sep, 9

elections, National Academy of Engineering: 70 U.S. engineers were honored by election to NAE membership—May, 6-7; elected to NAE Council were J. H. Dessauer, D. N. Frey, F. A. L. Holloway, R. Landau, and J. M. Pettit—Oct, 2

elections, National Academy of Sciences: election of 95 new members was announced at 1973 annual meeting, along with 12 new foreign associates—May, 1, 2, 3; S. Mac Lane was elected NAS vice president; named to the governing Council were H. W. Babcock, M. McCarty, K. S. Pitzer, and C. M. Williams—May, 1

energy: see "Energy: Future Alternatives and Risks"; *Evaluation of Coal-Gasification Technology, Part I: Pipeline-Quality Gas; Outer Continental Shelf Resource Development Safety: A Review of Technology and Regulation for the Systematic Minimization of Environmental Intrusion from Petroleum Products; Rehabilitation Potential of Western Coal Lands; Report by the Committee on Motor Vehicle Emissions*

"Energy: Future Alternatives and Risks," second program in the Academy Forum series, convened by the National Academy of Sciences January 29-30, 1974, to consider issues of energy economics, energy-related problems of environmental health and safety, regulation, research, and energy-related problems of social values, with discussants representing the basic sciences, the social sciences, the humanities, government, industry, and public-interest organizations—Dec, 1

Energy Policy Project, Ford Foundation's: helped support NRC study culminating in report *Rehabilitation Potential of Western Coal Lands*—Nov, 6

Englehardt, Vladimir A., director of Institute of Molecular Biology, U.S.S.R., elected NAS foreign associate—May, 3

environment: see *Biological Impacts of Increased Intensities of Solar Ultraviolet Radiation; Conference on Health Effects of Air Pollution: Summary of Proceedings; Degradation of Synthetic Organic Molecules in the Biosphere: Natural, Pesticidal, and Various Other Man-Made Compounds; The Earth and Human Affairs; Environmental Quality and Social Behavior: Strategies for Research; Geographical Perspectives and Urban Problems; Man, Materials, and Environment; Mosquito Control: Some Perspectives for Developing Countries; Outer Continental Shelf Resource Development Safety: A Review of Technology and Regulation for the Systematic Minimization of Environmental Intrusion from Petroleum Products; Rehabilitation Potential of Western Coal Lands; Report by the Com-*

mittee on Motor Vehicle Emissions

Environmental Protection Agency, U.S.: contracted NAS study of available and prospective technology for meeting the light-duty motor vehicle emissions standards prescribed by the Clean Air Amendments of 1970; NRC Report by the Committee on Motor Vehicle Emissions urges EPA concern for the trend of development of the 1976 model year control systems—Mar, 3

Environmental Quality and Social Behavior: *Strategies for Research*, NRC's Division of Behavioral Sciences, report of study begun with 1969 Study Conference on Research Strategies in the Behavioral and Social Sciences on Environmental Problems and Policies stresses problem-oriented strategies directed at improving knowledge about individual, group, institutional, and governmental behaviors that relate to problems of environmental quality and management. Report warns that the objective of maintaining environmental quality through modes of social management is not a single problem but requires systemwide analysis of human communities and institutions similar to that necessary for solving other major social problems. Report suggests a variety of research topics aimed at problems of environmental processes ("research on values, perceptions, and motivations, and research on economic processes") and environmental policies (research "intended to develop ways of managing environmental changes through social institutions")—Jun-Jul, 2-3

Environmental Studies Board: formerly a joint board of the National Academy of Sciences and National Academy of Engineering, organized a study of the state of information available for use in rehabilitation of surface-mined lands in the western United States—Jan, 1; *ad hoc* panel reported to ESB on *Biological Impacts of Increased Intensities of Solar Ultraviolet Radiation*—Feb, 1; now operating under the new NRC Commission on Natural Resources, ESB adds some new activities from various other units—Apr, 7; ESB reported to U.S. National Commission on Materials Policy on *Man, Materials, and Environment*—May, 1; a two-part study (1) evaluating air-quality standards and automotive-emissions standards and (2) examining costs and benefits of compliance with automotive-emissions standards, is underway in two ESB committees for the U.S. Senate Committee on Public Works—Dec, 4

Eschenmoser, Albert, of Technische Hochschule, Switzerland, elected NAS foreign associate—May, 3

Eulau, Heinz, quoted in excerpt from *State, School, and Politics: Research Directions*, proceedings of a 1970 COBRE research workshop—Jun-Jul, 8-9

European Space Research Organization (ESRO), joins United States in funding spacecraft for NASA/ESRO Mother-Daughter Helio-centric missions (International Magnetospheric Explorers)—Jun-Jul, 4

Evaluation of Coal-Gasification Technology, Part I: Pipeline-Quality Gas, NAE-NRC *Ad Hoc* Panel on Evaluation of Coal-Gasification Technology, first report in response to U.S. Office of Coal Research request is directed to problems of coal conversion to pipeline-quality gas to provide a clean fuel option in recognition of dwindling U.S. oil and gas reserves. While urging the privately funded Lurgi process to proceed with cost and performance data made available, report recommends Federal support for pilot-plant development of four processes (Institute of Gas Technology

Steam-Oxygen Hy-Gas, Bureau of Mines Synthane, Bituminous Coal Research, Inc. Bi-Gas, and Consolidation Coal Company, Inc. Acceptor processes). Report urges continuous review by a management group and evaluation of all estimates, with concurrent work by independent groups on the chemistry and physics of coal-gasification, on economic aspects, and on pollution and other environmental problems—Jan, 2-3

Evans, John R., of University of Toronto, elected to NAS Institute of Medicine—Aug-Sep, 9

Fano, Robert Mario, of Massachusetts Institute of Technology, elected to National Academy of Engineering—May, 6

Farner, Donald S., of University of Washington, chaired the former Division of Biology and Agriculture, now chairs the new Division of Biological Sciences under the NRC's new Assembly of Life Sciences (to be succeeded by chairman-designate D. Kennedy July 1, 1974)—Nov, 3

Ferguson, Phil M., of University of Texas at Austin, elected to National Academy of Engineering—May, 6

Ferrocement: *Applications in Developing Countries*, NAS Advisory Committee on Technological Innovation (Board on Science and Technology for International Development) *ad hoc* panel report terms ferrocement "highly versatile" with "unique qualities of strength and serviceability" useful for boatbuilding and particularly suited to applications in agriculture, industry, and housing in developing countries. Panel recommended measures to make ferrocement technology available in a practical way (e.g., ferrocement training schools), and urged establishment of a multi-disciplinary Committee for International Cooperation in the Research and Development of Ferrocement for Developing Nations—Apr, 2-3

Fine, Morris E., of Northwestern University, elected to National Academy of Engineering—May, 6

fire loads: NRC's Building Research Advisory Board has begun a study, supported by the Public Buildings Service of the U.S. General Services Administration, of fire loads that might be found in large buildings; objectives of the study are to learn what fire severity can be expected in a variety of large-building situations, and to use this information as the basis for fire safety recommendations to building designers—Jan, 1

Fischer, Edmond H., of University of Washington, elected to National Academy of Sciences—May, 2

Fixman, Marshall, of Yale University, elected to National Academy of Sciences—May, 2

Fogel, Robert W., of University of Chicago and University of Rochester, elected to National Academy of Sciences—May, 2

Foley, Donald L., of University of California at Berkeley, quoted from NRC panel report *Segregation in Residential Areas: Papers on Racial and Socioeconomic Factors in Choice of Housing*—Feb, 3

Food and Nutrition Board, National Research Council: committees reported on *Nutrition, National Development, and Planning; Nutritional Supplementation and the Outcome of Pregnancy; The Relationship of Nutrition to Brain Development and Behavior; and Supple-*

mentation of Human Diets with Vitamin E—see report titles

- Forster, Robert E., of University of Pennsylvania Graduate School of Medicine, elected to National Academy of Sciences—May, 2
- Frederickson, Donald S., of National Heart and Lung Institute, elected to National Academy of Sciences—May, 2
- Freedle, Roy O., and John B. Carroll, editors of *Language Comprehension and the Acquisition of Knowledge*, proceedings of a 1971 COBRE research workshop; quoted in excerpt from report—Jun-Jul, 8
- Freedman, Ronald, of University of Michigan at Ann Arbor, named to serve on NRC's new Commission on Natural Resources—Apr, 7
- Frey, Donald N., of Bell and Howell, Chicago, elected for the one year remaining in the three-year term on NAE governing Council vacated in 1972 by R. Bisplinghoff—Oct, 2
- Friedlander, Gerhart, of Brookhaven National Laboratory, elected to National Academy of Sciences—May, 2
- Friedman, Milton, of University of Chicago, elected to National Academy of Sciences—May, 2
- Fubini, E. G., ended term on NAE governing Council—Oct, 2

- G**abor, Dennis, of Imperial College of Science and Technology, England, elected NAS foreign associate—May, 3
- Galke, June R., now working with U.S. National Committee on Geochemistry, served as secretary and occasional editor with the NRC Committee on the Alaska Earthquake from its formation in 1964 through completion of its work in 1973 with the final volume *The Great Alaska Earthquake of 1964: Summary and Recommendations*—Nov, 5
- Gannon, Henry, executive director of the NRC Division of Medical Sciences (now under the new NRC Assembly of Life Sciences), retires in January 1974 after 13 years of service to the National Academy of Sciences (succeeded by H. Parker)—Nov, 3
- Geballe, Theodore H., of Stanford University, elected to National Academy of Sciences—May, 2
- Geertz, Clifford J., of Institute for Advanced Study, Princeton, elected to National Academy of Sciences—May, 2
- Geodynamics Project—see *U.S. Program for the Geodynamics Project: Scope and Objectives*
- Geographical Perspectives and Urban Problems*, proceedings of 1971 symposium on urban geographical research convened by NAS-NRC Committee on Geography, stresses significance to urban planning of ways the physical environment is perceived by individuals and urges interaction of urban geographers "with federal and local agencies in an effort to define, evaluate, and help to overcome specific urban problems" such as *terrae incognitae*—Mar, 6
- Geological Sciences, Committee on, of NRC's Division of Earth Sciences, survey of the state of its field begun in 1969 culminated in report *The Earth and Human Affairs*—Jan, 6
- Gerwick, Ben C., Jr., of University of California at Berkeley, elected to National Academy of Engineering—May, 6
- Gibbon, John H., NAS member, died February 5, 1973—Mar, 3
- Gifford, Richard P., of General Electric Co. Communication Systems Division, elected to National Academy of Engineering—May, 6
- Gilbert, James F., of University of California at

- San Diego, elected to National Academy of Sciences—May, 2
- Gilbridge, John T., president of Todd Shipyards Corp., member of NRC's Maritime Transportation Research Board—which reviewed its panel's report *Shipbuilding Research and Development*—disagreed with panel's assessment of U.S. shipbuilding industry—Jun-Jul, 10
- Gilliland, Edwin R., NAS member and NAE member, died March 10, 1973—Apr, 3
- Gindilis, L. M., quoted from *Communication with Extraterrestrial Intelligence, CETI*, proceedings of a joint conference of U.S. National Academy of Sciences and Academy of Sciences of the U.S.S.R.—Dec, 7
- Ginsburg, Charles P., of Ampex Corp., elected to National Academy of Engineering—May, 6
- Ginzton, E. L., chairman of Varian Associates, chaired NRC committee issuing *Report by the Committee on Motor Vehicle Emissions*—Mar, 2
- Giorgi, Elsie A., practicing physician, Beverly Hills, Cal., elected to NAS Institute of Medicine—Aug-Sep, 9
- Glass, David V., of London School of Economics, England, elected NAS foreign associate—May, 3
- Global Atmospheric Research Program—see *Plan for U.S. Clear-Air Turbulence Research in the Global Atmospheric Research Program*
- Goguel, Jean, of Ecole des Mines, France, elected NAS foreign associate—May, 3
- Goldblatt, Harry, of Case Western Reserve University, elected to National Academy of Sciences—May, 2
- Goldthwait, Richard P., chairman of Panel on Hydrology, NRC Committee on the Alaska Earthquake, quoted from panel report for the committee's summary volume *The Great Alaska Earthquake of 1964: Summary and Recommendations*—Nov, 5
- Goody, Richard M., of Harvard University, appointed to three-year term as chairman of the NRC Space Science Board, succeeding C. H. Townes—Nov, 3
- Gottschalk, Carl W., of University of North Carolina School of Medicine, elected to NAS Institute of Medicine—Aug-Sep, 9
- Gould, Peter, of Pennsylvania State University, quoted from NAS-NRC Committee on Geography symposium proceedings *Geographical Perspectives and Urban Problems*—Mar, 6
- Gould, William R., of Southern California Edison Co., elected to National Academy of Engineering—May, 6
- Grahn, Douglas, radiological toxicologist with Atomic Energy Commission headquarters, chaired Radiobiological Advisory Panel of NRC Space Science Board's Committee on Space Biology and Medicine reporting on *HZE-Particle Effects in Manned Spaceflight*—Jun-Jul, 1-2
- The Great Alaska Earthquake of 1964: Engineering*, NRC Committee on the Alaska Earthquake, latest panel report urges minimizing earthquake and tsunami hazards through good engineering in location, design, and construction, but finds the level of effort in earthquake-engineering research insufficient to meet the demands of engineering practice: needed are studies to develop seismic-building-code provisions that use dynamic principles directly, with attention to new types of construction; research into earthquake behavior of soils; technical information on relationships between engineering design and structural performance during earthquakes; and attention to vulnerability, especially to fire hazard,

- of ports, fuel facilities, and public utilities. Report concludes that earthquake protection is to a considerable degree a social question, currently an economic decision, and that studies should be undertaken to improve the state of knowledge necessary for making rational economic decisions—Jun-Jul, 1; statement excerpted from panel's report points up international nature of the problem—Jun-Jul, 7
- The Great Alaska Earthquake of 1964: Summary and Recommendations*, Committee on the Alaska Earthquake, NRC Division of Earth Sciences, summary volume completes the project begun in 1964 and including reports on *Hydrology*, on *Human Ecology*, on *Biology*, on *Geology*, on *Seismology and Geodesy*, on *Oceanography and Coastal Engineering*, and on *Engineering*. Preliminary recommendations concerning loss-reduction issued in the committee's 1968 booklet *Toward Reduction of Losses from Earthquakes* stand almost unchanged in the summary volume: development of earthquake-resistant design methods for structures on different kinds of ground conditions; earthquake-hazard mapping; improved tsunami warning systems; periodic reappraisal of hazard from dams, storage tanks, reservoirs, and older buildings; increased physical data on ground motion and structural response; and attention to need for a disaster-insurance plan aimed at loss reduction as well as loss compensation. Summary volume's updated panel findings and assessments reflect upon the whole of the earthquake-study record in light of scientific developments and engineering understanding in the past nine years. Notable contributions of the studies to "the ongoing development of science" include documentation for the major new geological concept of plate tectonics, evidence for the importance of water content in soils and for the connection of tsunamis with tectonic displacements of the ocean floor, and pointing up of need for monitoring biota in changed and changing landforms—Nov, 1
- Greenstein, Jesse, of California Institute of Technology, chaired NAS Astronomy Survey Committee reporting on *Astronomy and Astrophysics for the 1970's*; quoted on panel reports, now issued as Volume 2—Apr, 4
- Griffin, Herschel E., dean of Graduate School of Public Health at University of Pittsburgh, chaired planning committee in NRC Assembly of Life Sciences which prepared executive summary *Conference on Health Effects of Air Pollution: Summary of Proceedings*—Dec, 1, 4
- Grobe, James L., practicing physician, Phoenix, Ariz., elected to NAS Institute of Medicine—Aug-Sep, 9
- Gross, Ludwik, chief of Cancer Research Unit at Bronx Veterans Administration Hospital, elected to National Academy of Sciences—May, 2

- H**alberstam, Michael J., practicing physician, Washington, D.C., elected to NAS Institute of Medicine—Aug-Sep, 9
- Hammes, Gordon G., of Cornell University, elected to National Academy of Sciences—May, 2
- Handler, Philip, president of U.S. National Academy of Sciences and chairman of National Research Council, quoted from letter of transmittal for NRC *Report by the Committee on Motor Vehicle Emissions* to U.S.

Environmental Protection Agency—Mar, 2; announced formation of NRC Assembly of Behavioral and Social Sciences and Commission on Natural Resources—Apr, 1; exchanged cables with President Keldysh of Academy of Sciences of the U.S.S.R. in an effort to promote interacademy understanding in the Sakharov matter—Aug-Sep, 1; Nov, 1 (see Sakharov); quoted from letter of transmittal for NRC report *Conference on Health Effects of Air Pollution: Summary of Proceedings* to U.S. Senate Committee on Public Works—Dec, 1; on behalf of NAS, Handler welcomed establishment of the new Albanian People's Republic Academy of Sciences—Dec, 1

Harris, Zellig S., of University of Pennsylvania, elected to National Academy of Sciences—May, 2

Haviland, James W., of University of Washington School of Medicine, elected to NAS Institute of Medicine—Aug-Sep, 9

Hawley, Amos H., University of North Carolina sociologist, chaired NRC Social Science Panel established at request of NAS-NAE Advisory Committee to the Department of Housing and Urban Development; quoted from report *Segregation in Residential Areas: Papers on Racial and Socioeconomic Factors in Choice of Housing*—Feb, 2, 3

Hawthorne, Marion F., of University of California at Los Angeles, elected to National Academy of Sciences—May, 2

Haynes, M. Alfred, of Charles R. Drew Postgraduate Medical School, Los Angeles, elected to NAS Institute of Medicine—Aug-Sep, 9

health: see *Aquatic Animal Health*; *The Child with an Acquired Amputation*; *Conference on Health Effects of Air Pollution: Summary of Proceedings*; *Contrasts in Health Status*; *Control of Rabies*; Lead in Paint, NRC Ad Hoc Committee to Evaluate the Hazard of; *Man, Materials, and Environment*; *Maternal Nutrition and the Course of Pregnancy*; *Mosquito Control: Some Perspectives for Developing Countries*; *Nutrition, National Development, and Planning*; *Nutritional Supplementation and the Outcome of Pregnancy*; *The Relationship of Nutrition to Brain Development and Behavior*; *The S-Hemoglobinopathies: An Evaluation of Their Status in the Armed Forces*; *Supplementation of Human Diets with Vitamin E*

Health Services Research, Panel on, NAS Institute of Medicine, issued first two volumes in its *Contrasts in Health Status* series: *Infant Death: An Analysis by Maternal Risk and Health Care*, and *A Strategy for Evaluating Health Services*—Aug-Sep, 8

Hedberg, Hollis D., of Princeton University, awarded the *Mary Clark Thompson Medal* at 110th NAS annual meeting—May, 5

Hedefine, Alfred, of Parsons, Brinckerhoff, Quade & Douglas, N.Y., elected to National Academy of Engineering—May, 6

Hegsted, David M., of Harvard School of Public Health, elected to National Academy of Sciences—May, 2

Heizer, Robert F., of University of California at Berkeley, elected to National Academy of Sciences—May, 2

Held, Richard M., of Massachusetts Institute of Technology, elected to National Academy of Sciences—May, 2

Helliwell, Robert A., of Stanford University, chaired Joint Ad Hoc Study Panel on the IMS, a panel of NRC Geophysics Research Board's Committee on Solar-Terrestrial Research and NRC Space Science Board, reporting on *International Magnetospheric Study*:

Guidelines for United States Participation—Jun-Jul, 4

Henderson, LaVell M., of University of Minnesota Department of Biochemistry, chairman of Committee on Nutritional Misinformation of the NRC Food and Nutrition Board, which has issued a statement warning against self-medication, *Supplementation of Human Diets with Vitamin E*—Oct, 6

Henry, James J., president of naval-architecture firm of J. J. Henry Co., Inc., member of NRC's Maritime Transportation Research Board—which reviewed its panel's report *Shipbuilding Research and Development*—disagreed with panel's assessment of the U.S. shipbuilding industry—Jun-Jul, 10

Henry, Joseph (1797-1878), experimental physicist who discovered the principle of electromagnetic induction, served as second president of the National Academy of Sciences; excerpts from his Introductory Lecture on Chemistry delivered in 1832 are reprinted from *The Papers of Joseph Henry, Volume I: The Albany Years, December 1797-October 1832*, Nathan Reingold, ed.—Feb, 6-8

Herwald, Seymour W., Westinghouse Electric Corp. vice president, chairman of NAE BART Impact Advisory Committee established at request of U.S. Department of Transportation to advise "BART Impact Program"—Jan, 2

Hippel, Frank von, physicist from Argonne National Laboratory, now involved in energy studies in the NRC Commission on Natural Resources under the new NAS Resident Fellowship Program—Nov, 7

Hisaw, Frederick Lee, of Harvard University, NAS member, died December 3, 1972—Jan, 6

Hoerner, S. von, quoted from *Communication with Extraterrestrial Intelligence, CETI*, proceedings of joint conference of U.S. National Academy of Sciences and Academy of Sciences of the U.S.S.R.—Dec, 7

Hogness, John R., first full-time president of NAS Institute of Medicine, announced plans to resign the office in 1974 to become president of the University of Washington—Nov, 3

Hognestad, Eivind, of Portland Cement Association, Ill., elected to National Academy of Engineering—May, 6

Hollister, Solomon C., of Cornell University College of Engineering, elected to National Academy of Engineering—May, 6

Holloway, Frederic A. L., of Exxon Corp., New York City, re-elected to three-year term on NAE governing Council—Oct, 2

Holonyak, Nick, Jr., of University of Illinois, elected to National Academy of Engineering—May, 6

Hopfield, John J., of Princeton University, elected to National Academy of Sciences—May, 2

Hopper, Grace M., of U.S. Department of the Navy, elected to National Academy of Engineering—May, 6

Horton, Frank E., of University of Iowa, chaired 1971 symposium on urban geographical research convened by NAS-NRC Committee on Geography; quoted from joint report with J. R. Borchert in conference proceedings *Geographical Perspectives and Urban Problems*—Mar, 6

Housing and Urban Development, U.S. Department of (HUD): joins U.S. Department of Transportation and the State of California in support of "BART Impact Program" studying impact of the San Francisco Bay Area Rapid Transit system—Jan, 2; NRC Social Science Panel commissioned report *Segregation in Residential Areas: Papers on Racial and Socioeconomic Factors in Choice of Housing* at

request of NAS-NAE Advisory Committee to HUD for information on the state of knowledge pertinent to the feasibility of racial and socioeconomic mixing and relevant in particular to the department's industrialized-housing demonstration, "Operation Breakthrough"—Feb, 2

Housner, George W., of California Institute of Technology, chaired panel of NRC Committee on the Alaska Earthquake reporting on *The Great Alaska Earthquake of 1964: Engineering*—Jun-Jul, 6

Hudson, Donald E., of California Institute of Technology, elected to National Academy of Engineering—May, 6

Humphrey, Arthur E., of University of Pennsylvania, elected to National Academy of Engineering—May, 6

Hunt, John M., chairman of Department of Chemistry at Woods Hole Oceanographic Institution, executive chairman of NRC Ocean Affairs Board study group which planned May 1973 workshop to assess current information on petroleum and petroleum products in the ocean and their effects on marine life—Feb, 2

Hydrology, Panel on, NRC Committee on the Alaska Earthquake, carried out the most extensive hydrologic studies ever done in connection with any earthquake for its report *The Great Alaska Earthquake of 1964: Hydrology*; since this report, studies have shown increased pressures on well-casings prior to earthquakes. Thus, panel's report for the committee's final volume *The Great Alaska Earthquake of 1964: Summary and Recommendations* notes possibility of advance earthquake warning from water-level changes and urges expanded research in this area—Nov, 5

HZE-Particle Effects in Manned Spaceflight, Radiobiological Advisory Panel of NRC Space Science Board's Committee on Space Biology and Medicine, report to U.S. National Aeronautics and Space Administration concludes that questions concerning biological effects of high-energy heavy ions in space need not be considered a barrier to planning long-duration manned missions, but urges further studies to provide biological data for a quantitative assessment of potential hazards to man before such missions are carried out—Jun-Jul, 1

Infant Death: *An Analysis by Maternal Risk and Health Care (Contrasts in Health Status, Volume 1)*, Health Services Research Study, NAS Institute of Medicine, describes an analysis of vital-statistics data on 140,000 births in New York City in 1968. Recommendations for public policy and medical practice include changes in delivery of maternal and infant health services with concurrent reassessment of pertinent manpower and facility requirements, and further research carefully designed to clarify critical social and health policy issues and establish a firm basis for determining maternal and infant health services priorities and cost comparisons—Aug-Sep, 8-9

Inkeles, Alex, of Stanford University, appointed to executive committee of NRC's new Assembly of Behavioral and Social Sciences—Apr, 6

Institute of Medicine of the National Academy of Sciences: the status of a variety of IOM projects in the field of national health policies and programs was to be considered at 1973 annual meeting May 9-10—Apr, 1; IOM Health Services Research Study issued first two

volumes in its *Contrasts in Health Status* series: *Infant Death: An Analysis by Maternal Risk and Health Care*, and *A Strategy for Evaluating Health Services*—Aug-Sep, 8; election of 59 new members for 5-year terms brings IOM membership to 210—Aug-Sep, 9 international affairs: see *Ferrocement: Applications in Developing Countries*; *The Great Alaska Earthquake of 1964: Engineering; International Magnetospheric Study: Guidelines for U.S. Participation; Man, Materials, and Environment; Meeting the Challenge of Industrialization: A Feasibility Study for an International Industrialization Institute*; *Mosquito Control: Some Perspectives for Developing Countries*; *Nutrition, National Development, and Planning*; Sakharov, Andrei; U.S. International Firms and R, D & E in Developing Countries; U.S. Program for the Geodynamics Project: *Scope and Objectives* International Council of Scientific Unions (ICSU): International Magnetospheric Study (IMS) planned for 1976-1978—Jun-Jul, 4; NRC U.S. Geodynamics Committee proposes U.S. participation in ICSU's six-year, worldwide Geodynamics Project—Oct, 2 International Development, U.S. Agency for (AID): under contract with AID, the NAS Board on Science and Technology for International Development maintains an Advisory Committee on Technological Innovation; *ad hoc* panel reports to AID include *Ferrocement: Applications in Developing Countries*—Apr, 2; *Mosquito Control: Some Perspectives for Developing Countries*—May, 4; U.S. International Firms and R, D & E in Developing Countries—Oct, 1; AID requested NAS-NAE study to examine need, feasibility, and demand for an international institute to conduct research on industrialization for the benefit of developing countries, culminating in report *Meeting the Challenge of Industrialization: A Feasibility Study for an International Industrialization Institute*—Dec, 2 International Industrialization Institute—see *Meeting the Challenge of Industrialization* International Magnetospheric Study: *Guidelines for United States Participation*, report of Joint Ad Hoc Study Panel on the IMS of the NRC Geophysics Research Board's Committee on Solar-Terrestrial Research and the NRC Space Science Board, requested by U.S. National Science Foundation and National Aeronautics and Space Administration, recommends U.S. endorsement of the International Magnetospheric Study planned for 1976-1978 by the International Council of Scientific Unions. To take advantage of this opportunity for internationally coordinated magnetospheric observation, report urges U.S. participation through a research program of ground-based, balloon, rocket, and satellite observations (including NASA/ESRO Mother-Daughter Heliocentric missions), carried out through a program office set up within the National Science Foundation. Highest priority is stressed for stable U.S. support to sustain continuing productive research throughout the IMS (requiring only about 20 percent increase in funding of ground-based work)—Jun-Jul, 4 International Nutrition Programs, Committee on, NRC Food and Nutrition Board: initiated 1971 International Conference on Nutrition, National Development, and Planning, proceedings issued under the title *Nutrition, National Development, and Planning*; Subcommittee on Nutrition, Brain Development, and Behavior prepared a position paper *The Relationship of Nutrition to Brain Development and Behavior*—Aug-Sep, 7

International Relations, Commission on, National Research Council: formed in mid-1973 as part of an extensive NRC reorganization plan, the new CIR absorbed programs formerly administered by the NAS Office of the Foreign Secretary (which continues as the policy office of the NAS for international matters) and is the coordinating agency for international activities throughout the NAS and its associated organizations; the commission conducts its own programs through a group of boards, including a Board on International Organizations and Programs, a Board on Science and Technology for International Development, and a Board on International Scientific Exchange—each responsible for several committees. Commission's first chairman is NAS Foreign Secretary Harrison Brown, and executive director is W. Murray Todd—Nov, 1, 3

Investment in Education: The Equity-Efficiency Quandary, proceedings of a 1971 research workshop under auspices of the Committee on Basic Research in Education of the National Academy of Sciences and National Academy of Education; excerpt from "The Alternatives before Us," by Harry G. Johnson—Jun-Jul, 9

Isselbacher, Kurt J., of Harvard Medical School and Massachusetts General Hospital, elected to National Academy of Sciences—May, 2

Jacobson, Howard N., of Harvard University, chaired NRC Food and Nutrition Board's Committee on Maternal Health; quoted from his summary of 1971 workshop conclusions, proceedings published as *Nutritional Supplementation and the Outcome of Pregnancy*—Apr, 7

Jaffee, Robert I., of Battelle Memorial Institute, NAE member, chaired NAS-NAE steering committee arranging a joint meeting for October 1973 to examine current issues of national policy for materials supply—Aug-Sep, 1 James, Harold L., of U.S. Geological Survey, named to serve on NRC's new Commission on Natural Resources—Apr, 7

Johnson, H. Richard, of Watkins-Johnson Co., Calif., elected to National Academy of Engineering—May, 6

Johnson, Harry G., quoted in excerpt from *Investment in Education: The Equity-Efficiency Quandary*, proceedings of a 1971 COBRE research workshop—Jun-Jul, 9

Johnson, Howard W., chairman of the Corporation of the Massachusetts Institute of Technology, named to a three-year term as chairman of the Environmental Studies Board, a unit of the NRC's new Commission on Natural Resources (he succeeds G. J. F. MacDonald)—Nov, 3

Jones, Robert T., of U.S. National Aeronautics and Space Administration, elected to National Academy of Engineering—May, 6

Joy, Alfred H., NAS member, died April 18, 1973—Jun-Jul, 4

Julian, Percy L., of Julian Research Institute and Julian Associates, Inc., elected to National Academy of Sciences—May, 3

Karlin, Samuel, of Stanford University, received NAS Award in Applied Mathematics and Numerical Analysis—May, 5 Katz, Joseph J., of Argonne National Labora-

tory, elected to National Academy of Sciences—May, 3

Keil, Alfred A. H., dean of School of Engineering at Massachusetts Institute of Technology, co-chaired (with A. Richards) study under the joint auspices of NRC Ocean Affairs Board and NAE Marine Board culminating in report *Civil Manned Undersea Activity: An Assessment*—Dec, 2

Keldysh, M. V., President of the Academy of Sciences of the U.S.S.R. (NAUKA), signed protocol in Moscow July 2 with NAS President P. Handler recording their concurrence in expansion of the interacademy exchange program—Aug-Sep, 1; exchanged cables with NAS President Handler as the two academies sought understanding in the Sakharov matter—Aug-Sep, 1; Nov, 1 (see Sakharov, Andrei)

Keller, Joseph B., of New York University and Courant Institute, elected to National Academy of Sciences—May, 3

Kellermann, Kenneth I., of National Radio Astronomy Observatory, awarded Benjamin A. Thorp Gould Prize at 110th NAS annual meeting—May, 5

Kennedy, Donald, of Stanford University, chairman-designate of the NRC's new Division of Biological Sciences in the Assembly of Life Sciences, to succeed D. S. Farner July 1, 1974—Nov, 3

Kennedy, John F., Iowa Institute of Hydraulic Research, University of Iowa, elected to National Academy of Engineering—May, 6

Kety, Seymour S., of Massachusetts General Hospital, awarded Jessie Stevenson Kovalenko Medal at 110th NAS annual meeting—May, 5; elected to NAS Institute of Medicine—Aug-Sep, 9

Khan, Fazlur Rahman, of Skidmore, Owings & Merrill, Ill., elected to National Academy of Engineering—May, 6

Kilgore, Wendell W., University of California environmental toxicologist, chairman of Subcommittee on Chemical Additives, NRC Committee on Agriculture and the Environment, reporting on symposium *Degradation of Synthetic Organic Molecules in the Biosphere: Natural, Pesticidal, and Various Other Man-Made Compounds*—Jan, 1

Kimura, Motoo, of National Institute of Genetics, Japan, elected NAS foreign associate—May, 3

Kistiakowsky, George B., completing his second term as NAS vice president, succeeded July 1, 1973, by S. Mac Lane—May, 1

Klein, George, head of Department of Tumor Biology, Karolinska Institutet, Sweden, elected NAS foreign associate—May, 3

Klein, Lawrence R., of University of Pennsylvania, elected to National Academy of Sciences—May, 3

Konorski, Jerzy, NAS foreign associate, died September 14, 1973—Nov, 4

Kraushaar, William L., of University of Wisconsin, elected to National Academy of Sciences—May, 3

Krauskopf, Konrad B., of Stanford University, chairman of NRC Committee on the Alaska Earthquake; quoted from preface to report *The Great Alaska Earthquake of 1964: Engineering*—Jun-Jul, 7; quoted from his summary-volume essay of appraisal in *The Great Alaska Earthquake of 1964: Summary and Recommendations*—Nov, 1, 4

Krebs, Edwin G., of University of California at Davis, elected to National Academy of Sciences—May, 3

Kruskal, William H., chairman of Department of Statistics, University of Chicago, chairman of NRC Committee on National Statistics consid-

ering statistical problems in public administration—Mar, 1

Labor, U.S. Department of: requested NRC study to review and assess total investment in manpower research and development in fiscal years 1963-1972; NRC Committee on Department of Labor Manpower R&D expects to review some 1200 projects—Oct, 1

Lambert, Claude N., Chicago orthopedist, member of NRC Subcommittee on Child Prosthetics Problems, quoted from conference proceedings *The Child with an Acquired Amputation*—Jan, 8

Lambertsen, Eleanor C., of Cornell University-New York Hospital School of Nursing, elected to NAS Institute of Medicine—Aug-Sep, 9

Landau, Ralph, of Halcon International, New York City, newly elected to three-year term on NAE governing Council—Oct, 2

Language Comprehension and the Acquisition of Knowledge, proceedings of a 1971 research workshop under auspices of the Committee on Basic Research in Education of the National Academy of Sciences and National Academy of Education; excerpts from "Reflections" by Roy O. Freedle and John B. Carroll on developing linguistic competence—Jun-Jul, 8

Lansing, John B., of University of Michigan, chaired NRC Study, begun 4 years ago with the Study Conference on Research Strategies in the Behavioral and Social Sciences on Environmental Problems and Policies, until his death; succeeded by Martin David—Jun-Jul, 2

Larson, Clarence E., of U.S. Atomic Energy Commission, elected to National Academy of Engineering—May, 6

Laster, Leonard, formerly assistant director for human resources of NAS Office of Science and Technology, now executive director of the new NRC Assembly of Life Sciences as well as of its Division of Medical Sciences—Nov, 3

Lauritsen, Thomas, NAS member, died October 16, 1973—Nov, 4

Lave, Lester B., of Carnegie-Mellon University, appointed to executive committee of NRC's new Assembly of Behavioral and Social Sciences—Apr, 6

Lawler, Joseph C., of Camp Dresser & McKee, Mass., elected to National Academy of Engineering—May, 6

Lead in Paint, NRC Ad Hoc Committee to Evaluate the Hazard of, unpublished report to the Consumer Product Safety Commission urges lowest practicable concentration of lead in paint sold to consumers (cut from 0.5 percent to 0.06 in 1974), with attention to possible toxicity of lead substitutes; committee recommended epidemiologic studies, standardization of mass-screening procedures, and research attention to the nature of lead toxicity, especially in children—Dec, 1

Leffall, LaSalle D., Jr., of Howard University, elected to NAS Institute of Medicine—Aug-Sep, 9

Leopold, Luna B., of University of California at Berkeley, awarded the G. K. Warren Prize at 110th NAS annual meeting—May, 5

Leps, Thomas M., of Thomas M. Leps, Inc., Calif., elected to National Academy of Engineering—May, 6

Lerner, Aaron B., of Yale University School of Medicine, elected to National Academy of Sciences—May, 3

Lewis, Charles E., of University of California

School of Medicine, elected to NAS Institute of Medicine—Aug-Sep, 9

Lewis, Warren K., emeritus professor at Massachusetts Institute of Technology and member of the National Academy of Sciences and of Engineering, awarded eighth NAE Founders Medal for his contributions to engineering education and his work on gas-solid reactions—Oct, 2

Li, Choh Hao, of University of California at Berkeley, elected to National Academy of Sciences—May, 3

Lichtenstein, E. P., of University of Wisconsin, quoted from NRC symposium proceedings *Degradation of Synthetic Organic Molecules in the Biosphere: Natural, Pesticidal, and Various Other Man-Made Compounds*—Jan, 5

Life Sciences, Assembly of, National Research Council: formed in mid-1973 as part of an extensive NRC reorganization plan, this assembly is responsible for programs of the Division of Medical Sciences, new Division of Biological Sciences, and the Advisory Center on Toxicology. Terms of reference for the new assembly provide for special coordinating arrangements between the Division of Medical Sciences and the NAS Institute of Medicine. Officers of the new assembly are: J. D. Ebert, chairman; L. Laster, executive director; A. Vosburg; H. Parker, to succeed H. Gannon in January 1974; R. B. Stevens; D. S. Farner; P. A. Marks—Nov, 1, 3; a planning committee in the Assembly arranged October 1973 conference and prepared executive summary, *Conference on Health Effects of Air Pollution: Summary of Proceedings*, for U.S. Senate Committee on Public Works—Dec, 1

Linder, Clarence H., NAE President, issued statement March 26, 1973, regarding NAE Council's recommendation to the membership that the NAE be independently incorporated—Apr, 1; NAE president since 1970, Linder resigned from office and was succeeded by R. C. Seamans, Jr., May 15, 1973—Jun-Jul, 1

Lindzey, Gardner, of Harvard University, appointed to executive committee on NRC's new Assembly of Behavioral and Social Sciences—Apr, 6

Lipset, Seymour M., of Harvard University, elected to National Academy of Sciences—May, 3

Loeb, Robert F., NAS member, died October 21, 1973—Nov, 4

Logan, Arthur C., NAS Institute of Medicine member, died November 25, 1973—Dec, 6

Long, T. Dixon, of Case Western Reserve University, now working with the NRC Commission on International Relations under the new NAS Resident Fellowship Program—Nov, 7

Lowrance, William W., Jr., biochemist and executive editor of the *Journal of Cell Biology*, now working with NAS Committee on Science and Public Policy under the new NAS Resident Fellowship Program—Nov, 7

Luce, R. Duncan, of University of California, Irvine, appointed to executive committee of NRC's new Assembly of Behavioral and Social Sciences—Apr, 6

MacDonald, Gordon J. F., director of Environmental Studies Program at Dartmouth College, former member of Council on Environmental Quality, chaired NAS-NAE Envi-

ronmental Studies Board; quoted from his preface to *ad hoc* panel report *Biological Impacts of Increased Intensities of Solar Ultraviolet Radiation*—Feb, 1; named chairman of NRC's new Commission on Natural Resources—Apr, 6

Macdonald, James R., of University of Texas, elected to National Academy of Sciences—May, 3

Mac Lane, Saunders, *Mason Distinguished* professor of mathematics at University of Chicago, served on NAS Council from 1969 to 1972, elected NAS vice president taking office July 1, 1973 for 4-year term (to succeed George B. Kistiakowsky)—May, 1

MacMahon, Brian, of Harvard University School of Public Health, elected to NAS Institute of Medicine—Aug-Sep, 9

Mahoney, Margaret E., of Robert Wood Johnson Foundation, N. J., elected to NAS Institute of Medicine—Aug-Sep, 9

Malone, Thomas F., chaired Review Panel on Weather and Climate Modification of NRC's Committee on Atmospheric Sciences, quoted from his preface to the report *Weather and Climate Modification: Problems and Progress*—Aug-Sep, 4

Man, Materials, and Environment, Study Committee on Environmental Aspects of a National Materials Policy, NRC Environmental Studies Board Committee for International Environmental Programs, report to U.S. National Commission on Materials Policy urges extensive changes in national foreign and domestic policy to reconcile environmental protection, resource conservation, and economic approach; the recommended new environmental ethic implies that "every decision, public or private, regarding materials usage must be made in light of its environmental impact"—May, 1, 4-5

Mann, Marion, of Howard University College of Medicine, elected to NAS Institute of Medicine—Aug-Sep, 9

Mann, Robert W., of Massachusetts Institute of Technology, elected to National Academy of Engineering—May, 6

Manpower Research and Development, NRC Committee on Department of Labor: at Labor Department request a study is underway to review and assess the total investment made by the department in manpower research and development in fiscal years 1963-1972; the committee expects to examine some 1200 projects with the goal of recommending ways to strengthen the Labor Department's manpower-research policies and programs for the decade ahead—Oct, 1

Man's Impact on Terrestrial and Oceanic Ecosystems (MIT Press, 1971), an anthology resulting from 1970 Study of Critical Environmental Problems at Williams College; article by Roger Revelle, Edward Wenk, Bostwick H. Ketchum, and Edward R. Corino quoted on concern for better scientific understanding of the sources, paths, effects, and fates of petroleum in marine ecosystems—Feb, 2

March, James G., of Stanford University, elected to National Academy of Sciences—May, 3

Marine Board, National Academy of Engineering: panel reported on *Outer Continental Shelf Resource Development Safety: A Review of Technology and Regulation for the Systematic Minimization of Environmental Intrusion from Petroleum Products*—Mar, 1; NAE Marine Board and NRC's Ocean Affairs Board jointly convened a 1972 workshop and issued joint report *Civil Manned Undersea Activity: An Assessment*—Dec, 2

- Maritime Administration, U.S. Federal: NRC's Maritime Transportation Research Board panel report *Research and Education for Maritime Progress* urges MarAd support—Mar, 4; MTRB panel report *Shipbuilding Research and Development* used MarAd shipbuilding cost estimates—Jun-Jul, 10
- Maritime Transportation Research Board, National Research Council: at U.S. Maritime Administration request, panel reported on *Research and Education for Maritime Progress*—Mar, 4; panel reported on *Shipbuilding Research and Development*—Jun-Jul, 10
- Marks, Paul A., of Columbia University College of Physicians and Surgeons, elected to National Academy of Sciences—May, 3; chairs the Division of Medical Sciences brought intact into the NRC's new Assembly of Life Sciences—Nov, 3
- Marrett, Cora B., of Western Michigan University, now working with the NRC Assembly of Behavioral and Social Sciences under the new NAS Resident Fellowship Program—Nov, 7
- Marschak, Jacob, of University of California Western Management Science Institute, elected to National Academy of Sciences—May, 3
- Marston, Robert Q., of University of Virginia, NAS Institute of Medicine distinguished fellow, elected to Institute of Medicine—Aug-Sep, 9
- Martin, Margaret E., retired assistant chief of Statistical Policy Division, U.S. Office of Management and Budget, named executive director of NRC's Committee on National Statistics considering statistical problems in public administration—Mar, 1
- Materials Policy, U.S. National Commission on: study undertaken for the commission by NRC's Environmental Studies Board Study Committee on Environmental Aspects of a National Materials Policy culminated in report *Man, Materials, and Environment*—May, 1; National Research Council undertook three contract studies for the commission, whose final report recommendations on materials-supply issues were to be analyzed at joint NAS-NAE meeting in October 1973—Aug-Sep, 1
- Maternal Health, NRC Food and Nutrition Board's Committee on, issued proceedings of 1971 workshop *Nutritional Supplementation and the Outcome of Pregnancy*—Apr, 7
- Maternal Nutrition and the Course of Pregnancy, 1970 National Research Council report linked inadequate nutrition and fetal risk, and called for major studies "to provide rational bases for medical, public health, and nutrition policies and practices"—Apr, 7
- Mauch, Hans A., of Mauch Laboratories, Inc., Ohio, elected to National Academy of Engineering—May, 7
- McCarthy, Gerald T., of Tippetts-Abbett-McCarthy-Stratton, N.Y., elected to National Academy of Engineering—May, 7
- McCarty, Maclyn, vice president and physician-in-chief at Rockefeller University, elected to NAS governing Council for 3-year term beginning July 1, 1973—May, 1
- McElvain, Samuel M., NAS member, died April 11, 1973—Jun-Jul, 4
- McGauhey, Percy H., of Sanitary Engineering Research Laboratory, University of California at Berkeley, elected to National Academy of Engineering—May, 7
- McKusick, Victor A., of Moore Clinic and Johns Hopkins University, elected to National Academy of Sciences—May, 3
- McLean, William B., of Naval Undersea Research and Development Center, San Diego, elected to National Academy of Sciences—May, 3
- McMaster, Philip D., NAS member, died March 20, 1973—Apr, 3
- Mechlin, George F., vice president of Westinghouse Electric Corp. and general manager of its Astronuclear/Oceanic Division, chaired NAE Marine Board's Panel on Operational Safety in Offshore Resource Development; quoted from his foreword to report, *Outer Continental Shelf Resource Development Safety: A Review of Technology and Regulation for the Systematic Minimization of Environmental Intrusion from Petroleum Products*—Mar, 4
- Medical Follow-Up Agency, National Research Council, considers ways to shift and salvage its study programs since July 1973 fire in the St. Louis Military Personnel Records Center destroyed millions of files, a prime information source in its epidemiologic and mortality studies for U.S. Department of Defense, Public Health Service, and Veterans Administration—Aug-Sep, 1
- Meeting the Challenge of Industrialization: A Feasibility Study for an International Industrialization Institute*, Special International Panel of NAS Board on Science and Technology for International Development (Office of the Foreign Secretary) in collaboration with National Academy of Engineering, report sets forth recommendations and a prospectus for the institute in response to request from U.S. Agency for International Development to examine need, feasibility, and demand for an international organization to conduct research on industrialization for the benefit of developing countries. Panel recommends establishment of the institute—to be supported by industrial and industrializing countries, international organizations, foundations, and private business corporations, and governed by an independent, self-perpetuating board of trustees with staff representing many countries and disciplines—"devoted to enhancing knowledge of the industrialization process" through research designed to relate government planning and policymaking, the market mechanism, foreign and local investment, and technology—Dec, 2
- Merton, Robert K., of Columbia University, elected to NAS Institute of Medicine—Aug-Sep, 9
- Metcalf, Robert L., of University of Illinois, quoted from NRC symposium proceedings *Degradation of Synthetic Organic Molecules in the Biosphere: Natural, Pesticidal, and Various Other Man-Made Compounds*—Jan, 4
- Metzler, Dwight F., of New York State Department of Environmental Conservation, elected to National Academy of Engineering—May, 7
- Miller, Stanley L., of University of California at San Diego, elected to National Academy of Sciences—May, 3
- Miller, Stewart E., of Bell Telephone Laboratories, Inc., elected to National Academy of Engineering—May, 7
- Mindlin, Raymond D., of Columbia University, elected to National Academy of Sciences—May, 3
- Minsky, Marvin L., of Massachusetts Institute of Technology Artificial Intelligence Laboratory, elected to National Academy of Sciences—May, 3; quoted from *Communication with Extraterrestrial Intelligence, CETI*, proceedings of a joint conference of U.S. National Academy of Sciences and National Academy of Sciences of the U.S.S.R.—Dec, 7
- Mintz, Beatrice, of Institute for Cancer Research and University of Pennsylvania, elected to National Academy of Sciences—May, 3
- Modigliani, Franco, of Massachusetts Institute of Technology, elected to National Academy of Sciences—May, 3
- Molnar, Julius P., NAE member, died January 11, 1973—Feb, 3
- Morgan, James N., of University of Michigan, appointed to executive committee of NRC's new Assembly of Behavioral and Social Sciences—Apr, 6
- Morrison, Philip, Massachusetts Institute of Technology professor of physics, co-chairs (with A. M. Bueche) a public NAS program on "Energy: Future Alternatives and Risks," convened January 29-30, 1974, as the second Academy Forum—Dec, 1
- Mosquito Control: Some Perspectives for Developing Countries*, ad hoc panel report of Advisory Committee on Technological Innovation, NAS Board on Science and Technology for International Development (Office of the Foreign Secretary), at request of U.S. Agency for International Development (AID) panel examined alternatives for safe and effective mosquito control to curb disease transmission. Report urges careful shift towards biological and ecological control methods: future programs should employ a "pest-management technology" that includes source reduction (of breeding places), integrated control (combinations of biological and chemical methods), and quantitative analysis of costs and benefits to man and his environment—May, 4
- Motor Vehicle Emissions, Committee on, NRC Division of Engineering: established by National Academy of Sciences under contract with U.S. Environmental Protection Agency to study technological feasibility of meeting emission standards as directed by the Clean Air Amendments of 1970; *Report by the Committee on Motor Vehicle Emissions* states that four types of emission control systems will meet prescribed 1975 standards but expresses concern over trend of development of 1976 systems—Mar, 2-3; a study for the Congress is underway on (1) technological feasibility of controlling automotive emissions of nitrogen oxides, and (2) evaluation of alternative technologies for automotive propulsion as related to emissions control—Dec, 4
- Mottelson, Ben Roy, of Institute for Theoretical Atomic Physics (NORDITA), Denmark, elected NAS foreign associate—May, 3
- Mrak, Emil M., of University of California at Davis, agreed to serve on NRC's new Commission on Natural Resources—Apr, 7
- Murphy, Sheldon, of Harvard's Kresge Center for Environmental Health, quoted from NRC symposium proceedings *Degradation of Synthetic Organic Molecules in the Biosphere: Natural, Pesticidal, and Various Other Man-Made Compounds*—Jan, 4-5
- Murray, Robert F., chief of Medical Genetics Unit, Howard University College of Medicine, chaired ad hoc committee of NRC's Division of Medical Sciences reporting on *The S-Hemoglobinopathies: An Evaluation of Their Status in the Armed Forces*; quoted—Mar, 3
- Myers, Phillip S., of University of Wisconsin, elected to National Academy of Engineering—May, 7
- Nagel, Theodore J., of American Electric Power Service Corp., N.Y., elected to National Academy of Engineering—May, 7

Nambu, Yoichiro, of Enrico Fermi Institute for Nuclear Studies, University of Chicago, elected to National Academy of Sciences—May, 3

National Academy of Engineering, U.S.: NAE Council recommended NAE be separately incorporated independent of its present affiliation with the National Academy of Sciences—Apr, 1; NAE annual meeting in May was to be primarily devoted to considering NAE-NAS relations and to hearing reports of NAE technical committees—Apr, 2; at 1973 annual meeting, the NAE voted to ask its governing Council to "prepare a plan and a rationale for the incorporation" of the NAE as an independent, nonprofit corporation, and "to continue negotiations with the National Academy of Sciences," proposing to the NAE membership "at least two options for action prior to the next stated meeting"—May, 1; 70 U.S. engineers were honored by election to NAE membership in recognition of important contributions to engineering theory and practice, the pioneering of new fields of technology, and professional integrity (list of names and NAE citations)—May, 6-7; joint meeting was scheduled with National Academy of Sciences for October 1973 to examine current issues of national policy for materials supply—Aug-Sep, 1; October 24 meeting was planned to discuss future relationships with the National Academy of Sciences, in accord with NAE resolution passed at its May 1973 meeting—Oct, 1; NAE filled five vacancies on its 17-member governing Council and awarded eighth Founders Medal to W. K. Lewis—Oct, 2; NAE collaborated with the NAS Ad Hoc Panel of the Board on Science and Technology for International Development reporting on *U.S. International Firms and R, D & E in Developing Countries*—Oct, 4

National Academy of Sciences, U.S.: the Academy, Smithsonian Institution, and American Philosophical Society are jointly sponsoring an anticipated 15-volume project *The Papers of Joseph Henry* under the direction of historian Nathan Reingold, with support from the National Science Foundation—Feb, 6; 1973 annual meeting centers around symposia on "the Nature of Scientific Discovery," arranged jointly with the Smithsonian Institution in honor of the 500th anniversary of Copernicus' birth—Apr, 1; the Council of the National Academy of Engineering recommended that the NAE be separately incorporated as a result of differences in arranging for joint governance of the National Research Council by the two Academies—Apr, 1; NAS announced formation of the new NRC Assembly of Behavioral and Social Sciences and Commission on Natural Resources, first steps in extensive reorganization of the NRC into assemblies and commissions under the plan approved by the Academy in 1972; NAS is also taking steps to strengthen its procedures for the selection and appointment of advisory committees—Apr, 1; the Academy Forum convened May 15 to consider "How Safe Is Safe? The Design of Policy on Drugs and Food Additives," first of a series of public forums to identify major scientific and technological questions inherent in public policy issues—Apr, 2; at its 110th annual meeting, NAS announced the election by mail ballot of S. Mac Lane to succeed G. B. Kistiakowsky as NAS vice president; named to the NAS Council are H. W. Babcock, M. McCarty, K. S. Pitzer, and C. M. Williams. 95 U.S. scientists were elected to membership in the Academy (bringing the

total to 1,011), along with 12 new foreign associates. The NAS resolved to keep the door open for NAE cooperation and continued affiliation—May, 1 (list of new members—May, 2-3); joint meeting was scheduled with National Academy of Engineering for October 1973 to examine current issues of national policy for materials supply—Aug-Sep, 1; agenda of 1973 autumn meeting held Oct. 22-23 included an open symposium, "From Knowledge to Action: Science and Its Uses" (topics included "Science and Industry: the Private Sector," and "Federal and Academic Relationships: Biomedical Sciences as an Example") as well as delivery of contributed papers and a review of lunar scientific findings; an open, joint NAS-NAE symposium on national materials policy was scheduled Oct. 25-26—Oct, 1; guide to changes in the Academy's expanded telephone system effective Dec. 3, 1973—Nov, 5; in the Sakharov matter, the NAS and the Academy of Sciences of the U.S.S.R. have sought understanding through an exchange of cables September 8 (Handler), October 15 (Keldysh), and October 23 (Handler) between their respective presidents, culminating in expression by both Academies of hopes for the strengthening of international scientific cooperation—Aug-Sep, 1; Nov, 1; NAS welcomed establishment of new Academy of Sciences of the Albanian People's Republic and invited interacademy cooperation in November 5 letter from President Handler—Dec, 1

National Academy of Sciences Resident Fellowship Program: new program supported by a grant from the Alfred P. Sloan Foundation provides opportunities for individuals to spend up to two years with the NAS, National Academy of Engineering, Institute of Medicine, or National Research Council, combining their own study interests with the process of advice to government on problems in medicine, science, technology, and public policy; resident fellows for 1973-1974 are F. von Hippel, T. D. Long, W. W. Lowrance, Jr., C. B. Marrett, M. F. Uman, and J. E. Veney—Nov, 7

National Advisory Committee on Oceans and Atmosphere, U.S.: created by Public Law 92-125 to review progress of U.S. marine and atmospheric science and service programs and to advise the Secretary of Commerce on the work of NOAA; NRC's Committee on Atmospheric Sciences panel report *Weather and Climate Modification: Problems and Progress* recommends the National Advisory Committee "undertake a major study of the public-policy issues of weather modification"—Aug-Sep, 5

National Aeronautics and Space Administration, U.S. (NASA): U.S. Committee for the Global Atmospheric Research Program NRC panel report, *Plan for U.S. Clear-Air Turbulence Research in the Global Atmospheric Research Program*, urges provision of scanning lidar and additional instrument support by NASA for the National Oceanic and Atmospheric Administration's continuous-wave radar—Feb, 1; NASA requested study by NRC Space Science Board; panel reported on *HZE-Particle Effects in Manned Spaceflight*—Jun-Jul, 1; requested NRC advice on *International Magnetospheric Study: Guidelines for United States Participation*—Jun-Jul, 4

National Institute of General Medical Sciences: NIGMS postdoctoral training program was begun in 1958 to develop medical research manpower and to provide advanced training for researchers; NRC issued favorable report

Postdoctoral Training in the Biomedical Sciences—Oct, 7

National Oceanic and Atmospheric Administration, U.S. (NOAA): U.S. Committee for the Global Atmospheric Research Program panel report *Plan for U.S. Clear-Air Turbulence Research* urges modification of NOAA's continuous-wave radar (Boulder, Colorado) to detect clear-air turbulence in the tropopause—Feb, 1; NRC's Committee on Atmospheric Sciences panel report *Weather and Climate Modification: Problems and Progress* recommends that NOAA "be assigned the principal administrative responsibility" for its proposed national program in weather modification, including establishment of a Repository for Data on Weather Modification Activities—Aug-Sep, 5; NOAA requested examination of the role of civil manned undersea activity in relation to U.S. national interests from NAE's Marine Board and NRC's Ocean Affairs Board, which jointly issued report *Civil Manned Undersea Activity: An Assessment*—Dec, 2

National Research Council of the National Academy of Sciences: undergoing extensive reorganization as approved by NAS in 1972; three assemblies and five commissions will be formed as constituent parts of NRC "to develop coherent programs in their areas of concern and to manage the advisory activities of the Academy." Activities now located in the divisions and relating primarily to the scientific disciplines will be moved to Assemblies of Behavioral and Social Sciences (formed February 1, 1973), of Life Sciences, and of Physical Sciences and Mathematics; interdisciplinary activities in public-problem areas will be moved to five commissions dealing with natural resources, human resources, peace and national security, international scientific affairs, and technologies in complex social systems—Apr, 1, 6; reorganization to strengthen the NRC's ability to deal with public problems and to improve capacity for service to science continued with establishment of the new NRC Assembly of Life Sciences and the NRC Commission on International Relations—Nov, 1

National Science Foundation, U.S.: U.S. Committee for the Global Atmospheric Research Program NRC panel report *Plan for U.S. Clear-Air Turbulence Research* urges NSF and U.S. Air Force to make funds available for studies of data from earlier turbulence project by the Air Force Flight Dynamics Laboratory—Feb, 1; table of "Federal Budgeting for Physics Research, Fiscal 1974: Selected Major Programs" shows operating expense budget estimates for NSF scientific research project support in physics—Feb, 5; NSF is supporting an anticipated 15-volume project *The Papers of Joseph Henry*, sponsored jointly by the National Academy of Sciences, Smithsonian Institution, and American Philosophical Society—Feb, 6; NSF received NRC report *International Magnetospheric Study: Guidelines for United States Participation* recommending U.S. endorsement and support to include setting up a program office within NSF to coordinate IMS-related projects of each participating government agency—Jun-Jul, 4; NRC's Committee on Atmospheric Sciences panel report *Weather and Climate Modification: Problems and Progress* recommends that NSF continue to support research in all aspects of the field of weather modification—Aug-Sep, 5; NSF requested study of priorities for problem-oriented research as related to the NSF program of Research

Applied to National Needs (RANN) from the National Academy of Engineering's Committee on Public Engineering Policy, which has issued report *Priorities for Research Applicable to National Needs*—Dec, 3; civil manned undersea activity (MUA) in the U.S. is supported principally by NSF and the National Oceanic and Atmospheric Administration—Dec, 3

National Statistics, NRC Committee on, organized in response to recommendation of President's Commission on Federal Statistics and initially supported by NAS-NRC Program Initiation and Development Fund and the Russell Sage Foundation, has completed year-long look at range of topics to fulfill its charter obligation of providing policy guidance; committee plans to give particular attention to statistical problems in public administration—Mar, 1

Natural Resources, Commission on, National Research Council: first of five commissions to be formed as part of an extensive NRC reorganization plan, it will manage study projects through five boards: Board on Agriculture and Renewable Resources; Environmental Studies Board; Board on Energy Studies; Board on Nonrenewable Resources, Board on Oceans and Atmosphere. G. J. F. MacDonald (chairman), R. Carpenter (executive director), J. E. Cantlon, R. Freedman, H. L. James, E. M. Mark, K. S. Pitzer, F. Press, J. H. Ryther, R. M. Solow, and G. F. White have agreed to serve on the commission—Apr, 6, 7; the NRC Agricultural Board, formerly of the NRC Division of Biology and Agriculture (most of whose programs have now been taken over by the new Division of Biological Sciences in the Assembly of Life Sciences), has been transferred to the Commission on Natural Resources—Nov, 3; in connection with the reorganization, two key appointments have been made in the commission: H. W. Johnson has succeeded G. J. F. MacDonald as chairman of the Environmental Studies Board; T. Schad succeeds R. A. Carpenter as ESB executive secretary—Nov, 3; a Coordinating Committee on Air Quality Studies is responsible to the commission—Dec, 4

Neugebauer, Gerry, of California Institute of Technology and Hale Observatories, elected to the National Academy of Sciences—May, 3

Newman, Joseph H., of Tishman Research Corp., N.Y., elected to National Academy of Engineering—May, 7

NIGMS—see National Institute of General Medical Sciences

Nutrition, Brain Development, and Behavior, Subcommittee on, NRC Food and Nutrition Board's Committee on International Nutrition Programs, prepared position paper *The Relationship of Nutrition to Brain Development and Behavior*—Aug-Sep, 7

Nutrition, National Development, and Planning, Committee on International Nutrition Programs, NRC Food and Nutrition Board, proceedings of 1971 international conference identify a recycling of misery—food scarcity, inadequate nutrition, greater population growth, greater food scarcity—pointing up the urgency of the pursuit of science and technology to increase protein supply. Report finds the pressures on the protein to be very complex, so that hard decisions on the level of the world community may be necessary to equalize opportunity for a fuller life for all men—Aug-Sep, 7

Nutritional Supplementation and the Outcome of Pregnancy, proceedings of a 1971 work-

shop convened by NRC Food and Nutrition Board's Committee on Maternal Health to examine research on calorie and protein supplementation for the maternal diet; report concludes that studies confirm relationships of dietary deficiency and low birth weight, but provide insufficient information on which to base a policy of formulated nutritional supplementation—Apr, 7

Ocean Affairs Board, National Research Council: workshop was planned for May 1973 to assess current information on petroleum and petroleum products in the ocean and their effects on marine life—Feb, 2; Board joined NAE's Marine Board in convening a 1972 workshop at request of the National Oceanic and Atmospheric Administration and in issuing joint report *Civil Manned Undersea Activity: An Assessment*—Dec, 2

Odishaw, Hugh, received *NAS Award for Distinguished Service* for 1972 at 110th NAS annual meeting—May, 5

Okun, Daniel A., of University of North Carolina, elected to National Academy of Engineering—May, 7

Old, Bruce S., NAE Foreign Secretary, chaired Special International Panel of NAS Board on Science & Technology for International Development reporting on *Meeting the Challenge of Industrialization: A Feasibility Study for an International Industrialization Institute*—Dec, 2

Oldfield, J. E., of Oregon State University, quoted from report *Alternative Sources of Protein for Animal Production*, proceedings of 1972 symposium sponsored by American Society of Animal Science and NRC Committee on Animal Nutrition—Aug-Sep, 1, 6

Oliver, Bernard M., of Hewlett-Packard Company, elected to National Academy of Sciences—May, 3

Orgel, L., quoted from *Communication with Extraterrestrial Intelligence, CETI*, proceedings of a joint conference of U.S. National Academy of Sciences and National Academy of Sciences of the U.S.S.R.—Dec, 7

Outer Continental Shelf Resource Development Safety: *A Review of Technology and Regulation for the Systematic Minimization of Environmental Intrusion from Petroleum Products*, NAE Marine Board's Panel on Operational Safety in Offshore Resource Development, report following review of offshore technology and industrial and regulatory procedures recommends common technical definitions and standards, greater U.S. Government involvement in research and regulation, and new exposure to public examination; such action should minimize risk and increase public confidence that offshore petroleum resources can be developed without significant damage to the marine environment—Mar, 1

Paine, Thomas O., of General Electric Co. Power Generation Group, elected to National Academy of Engineering—May, 7

The Papers of Joseph Henry, Volume I: The Albany Years, December 1797-October 1832, edited by Nathan Reingold, first of an anticipated 15 volumes assembling and assessing

Henry's papers under sponsorship of National Academy of Sciences, Smithsonian Institution, and American Philosophical Society, with support from National Science Foundation; reprinted excerpts from his 1832 Introductory Lecture on Chemistry examine the purposes of science, "the mechanical philosophy"—Feb, 6-8

Pappenheimer, Alwin M., Jr., of Harvard University, elected to National Academy of Sciences—May, 3

Parker, Henry, a professional associate of the NRC Division of Medical Sciences (now under the new NRC Assembly of Life Sciences), designated acting executive secretary of the division as of January 1, 1974, succeeding retiring executive secretary H. Gannon—Nov, 3

Parks, Robert J., of California Institute of Technology Jet Propulsion Laboratory, elected to National Academy of Engineering—May, 7

Parr, Robert G., of Johns Hopkins University, elected to National Academy of Sciences—May, 3

Patterson, Clair C., of California Institute of Technology, awarded *J. Lawrence Smith Medal* at 110th NAS annual meeting—May, 5

Perry, J. Warren, of State University of New York, elected to NAS Institute of Medicine—Aug-Sep, 9

Petersdorf, Robert G., of University of Washington, Seattle, elected to NAS Institute of Medicine—Aug-Sep, 9

Peterson, Allen M., of Stanford University Center for Radar Astronomy, elected to National Academy of Engineering—May, 7

Petrie, William L., now working with U.S. National Committee on Geochemistry, served as NRC staff geologist with the Committee on the Alaska Earthquake since its formation in 1964 through completion of its work in 1973—Nov, 5

Pettigrew, Thomas F., Harvard University sociologist, quoted from NRC Social Science Panel report *Segregation in Residential Areas: Papers on Racial and Socioeconomic Factors in Choice of Housing*—Feb, 2

Pettit, Joseph M., of Georgia Institute of Technology, newly elected to three-year term on NAE governing Council—Oct, 2

Pettit, Rowland, of University of Texas, elected to National Academy of Sciences—May, 3

Pfaffmann, Carl, of The Rockefeller University, appointed to executive committee of NRC's new Assembly of Behavioral and Social Sciences—Apr, 6

Physics in Perspective, Volume II, Part A: The Core Subfields of Physics, panel reports to NAS Physics Survey Committee—Feb, 1

Piggot, Charles S., NAS member, died July 6, 1973—Aug-Sep, 5

Pikarsky, Milton, of City of Chicago, Ill., elected to National Academy of Engineering—May, 7

Pines, David, of University of Illinois, elected to National Academy of Sciences—May, 3

Pitzer, Kenneth S., of University of California at Berkeley, agreed to serve on NRC's new Commission on Natural Resources—Apr, 7; elected to NAS governing Council for 3-year term beginning July 1, 1973—May, 1

Plan for U.S. Clear-Air Turbulence Research in the Global Atmospheric Research Program, NRC panel report to U.S. Committee for the Global Atmospheric Research Program recommends additional Federal support for planned clear-air turbulence studies, important to aviation safety and to understanding effects of small-scale motions on large-scale dynamics of the atmosphere: report urges U.S. Defense Department to provide additional aircraft for

Project Wamflex of the National Center for Atmospheric Research, modification of National Oceanic and Atmospheric Administration's continuous-wave radar to detect clear-air turbulence in the tropopause, provision of scanning lidar and additional instrument support from the National Aeronautics and Space Administration, and funding by the National Science Foundation and U.S. Air Force for studies of earlier turbulence data collected by the Air Force Flight Dynamics Laboratory—Feb, 1

Platt, J. R., quoted from *Communication with Extraterrestrial Intelligence, CETI*, proceedings of a joint conference of U.S. National Academy of Sciences and Academy of Sciences of the U.S.S.R.—Dec, 7

Postdoctoral Training in the Biomedical Sciences, NRC's Office of Scientific Personnel and Advisory Committee on the Study of NIGMS Postdoctoral Fellowships and Traineeships in the Biomedical Sciences, study has been transmitted to the National Institute of General Medical Sciences postdoctoral training program, begun in 1958 to develop biomedical research manpower and to provide advanced training for researchers; report finds the program remarkably effective in increasing the number and competence of biomedical researchers—Oct, 7

Potter, David S., of General Motors Corp., elected to National Academy of Engineering—May, 7

Prausnitz, John M., of University of California at Berkeley, elected to National Academy of Sciences—May, 3

Press, Frank, of Massachusetts Institute of Technology, agreed to serve on NRC's new Commission on Natural Resources—Apr, 7

Price, James G., practicing physician, Brush, Col., elected to NAS Institute of Medicine—Aug-Sep, 9

Priorities for Research Applicable to National Needs, report of National Academy of Engineering's Committee on Public Engineering Policy to the National Science Foundation follows a study of priorities for problem-oriented research as related to NSF's program of Research Applied to National Needs (RANN): "RANN's task is to support research applicable to the resolution of national needs, the amelioration of national problems, and, in part, to support the more diffuse purpose of seeking information, insights and new perspectives as alternatives which will provide users, problem solvers and other researchers with new ways of looking at their problems"—Dec, 3 (includes excerpts)

Proceedings of the National Academy of Sciences, the NAS primary-publication scientific journal; P. Z. Thomas has been appointed managing editor, G. T. Cocks assistant managing editor—Nov, 3

Public Buildings Service, of the U.S. General Services Administration, supports study of fire loads by NRC's Building Research Advisory Board—Jan, 1

Public Engineering Policy, National Academy of Engineering's Committee on (COPEP), issued report *Priorities for Research Applicable to National Needs*; study will continue on problems of managing such a program—Dec, 3

Public Works, U.S. Senate Committee for: contracted with National Academy of Sciences for evaluation of current information on health effects of major air pollutants; *Conference on Health Effects of Air Pollution: Summary of Proceedings* was prepared in NRC Assembly of Life Sciences—Dec, 1; a two-part study evaluating air-quality and

emissions standards for the Senate Committee is underway in Environmental Studies Board—Dec, 4

Rabies, Subcommittee on, NRC Agricultural Board's Committee on Animal Health, issued report *Control of Rabies*—Aug-Sep, 2-3

Ramalingaswami, V., director of All-India Institute of Medical Sciences, India, elected NAS foreign associate—May, 3

Rammelkamp, Charles H., of Case Western Reserve University and Cleveland Metropolitan General Hospital, elected to National Academy of Sciences—May, 3

Ramo, Simon, of TRW, Inc., elected to National Academy of Sciences—May, 3

Rand, William B. W., of Submarex Corp. (retired), Calif., elected to National Academy of Engineering—May, 7

Ranney, Helen M., of State University of New York at Buffalo, elected to National Academy of Sciences—May, 3; chairman of Department of Medicine, University of California School of Medicine, San Diego, elected to NAS Institute of Medicine—Aug-Sep, 9

Reed, Lester J., of University of Texas and Clayton Foundation Biochemical Institute, elected to National Academy of Sciences—May, 3

Rees, Eberhard F. M., of NASA's George C. Marshall Space Flight Center, Ala., elected to National Academy of Engineering—May, 7

Rehabilitation Potential of Western Coal Lands, NRC Study Committee on the Potential for Rehabilitating Lands Surface Mined for Coal in the Western United States, report transmitted to the supporting Ford Foundation's Energy Policy Project urges concern for rehabilitation potential in plans for coal resource development. Recommendations reprinted from report include: rehabilitation plans designed to minimize environmental impact to be developed prior to surface mining for coal, with adequate provision for public participation; minimum Federal regulations to provide for preplanning, monitoring, enforcement, and financing of rehabilitation by mining operations; best available planning and rehabilitation technology to be used on public lands; a comprehensive, non-industry monitoring and evaluation program to be established for rehabilitation of all current and future coal surface mining operations; Federal research and development programs for coal to include total system approaches to energy resource mining, land rehabilitation, and energy conversion—Nov, 6

Reingold, Nathan, historian, quoted from his essay "American Indifference to Basic Research: A Reappraisal"—Feb, 5; Reingold is chief editor of *The Papers of Joseph Henry, Volume I: The Albany Years, December 1797-October 1832*, first of an anticipated 15 volumes under project sponsored by National Academy of Sciences, Smithsonian Institution, and American Philosophical Society—Feb, 6

The Relationship of Nutrition to Brain Development and Behavior, Subcommittee on Nutrition, Brain Development, and Behavior, NRC Food and Nutrition Board's Committee on International Nutrition Programs, position paper looks at the state of knowledge of effects of early protein deprivation and calls for "major and continuing commitments of money and people" to understand the relationship—Aug-Sep, 7

Report by the Committee on Motor Vehicle Emissions, NRC Division of Engineering, principal report of study contracted by U.S. Environmental Protection Agency to investigate available and prospective technology for meeting light-duty motor vehicle emissions standards as directed by the Clean Air Amendments of 1970. The committee found it unnecessary to recommend a set of interim standards for 1975 or 1976 model year vehicles: reprinted text of "Summary and Conclusions" states that four types of systems will meet the prescribed standards for 1975 during certification testing, while five control systems under development have met the 1976 standards at low mileage. However, EPA and the Congress should share the committee's concern about the trend of development of the 1976 control systems (the most promising system—the carbureted stratified-charge engine—may not be available in large numbers in 1976)—Mar, 2-3

Research and Education for Maritime Progress, Panel on Support for Maritime Research and Education, NRC's Maritime Transportation Research Board, report urges attention to long-term as well as short-term research and education needs of the U.S. merchant fleet, with emphasis on need for well-educated managerial personnel. Recommendations to Federal Maritime Administration include contracting with universities and other non-profit organizations to establish and manage an "Institute for Advanced Maritime Management Studies"; developing procedures for encouraging unsolicited research proposals; and increasing Federal and industrial support for maritime research and education—Mar, 4

Research Applied to National Needs (RANN), National Science Foundation program has been studied by National Academy of Engineering's Committee on Public Engineering Policy, culminating in report *Priorities for Research Applicable to National Needs*—Dec, 3

resources: see *The Earth and Human Affairs; Evaluation of Coal-Gasification Technology, Part I: Pipeline-Quality Gas; Man, Materials, and Environment; Outer Continental Shelf Resource Development Safety: A Review of Technology and Regulation for the Systematic Minimization of Environmental Intrusion from Petroleum Products; Rehabilitation Potential of Western Coal Lands; Substitute Catalysts for Platinum in Automobile Emission Control Devices and Petroleum Refining*

Revelle, Roger, of Harvard University, quoted from article appearing in anthology *Man's Impact on Terrestrial and Oceanic Ecosystems* (MIT Press, 1971)—Feb, 2; quoted from NRC conference proceedings *Nutrition, National Development, and Planning*—Aug-Sep, 7

Richards, Adrian, director of Lehigh University's Marine Geotechnical Laboratory, co-chaired (with A. A. H. Keil) joint study of NRC Ocean Affairs Board and NAE Marine Board culminating in report *Civil Manned Undersea Activity: An Assessment*—Dec, 2

Richards, Dickinson W., NAS member, died February 22, 1973—Mar, 3

Robbins, Frederick C., of Case Western Reserve University School of Medicine, elected to NAS Institute of Medicine—Aug-Sep, 9

Roberts, Doris E., of U.S. Department of Health, Education and Welfare Health Resources Agency, elected to NAS Institute of Medicine—Aug-Sep, 9

Romer, Alfred S., NAS member, died November 5, 1973—Dec, 6

Romualdi, James P., of Carnegie-Mellon Univer-

sity Department of Civil Engineering, chaired *ad hoc* panel of Advisory Committee on Technological Innovation, NAS Board on Science and Technology for International Development, reporting on *Ferrocement: Applications in Developing Countries*—Apr, 2

Rosen, Harold A., of Hughes Aircraft Co. Space and Communications Group, Calif., elected to National Academy of Engineering—May, 7

Rosenbaum, Joe B., of U.S. Department of the Interior Bureau of Mines, elected to National Academy of Engineering—May, 7

Rosenblith, Walter A., of Massachusetts Institute of Technology, elected to National Academy of Engineering—May, 7

Ross, Ian M., of Bell Telephone Laboratories, Inc., elected to National Academy of Engineering—May, 7

Roy, Rustum, of Pennsylvania State University Materials Research Laboratory, elected to National Academy of Engineering—May, 7

Roy, William R., member of U.S. House of Representatives, elected to NAS Institute of Medicine—Aug-Sep, 9

Rummel, Robert W., of Trans World Airlines, N.Y., elected to National Academy of Engineering—May, 7

Russell Sage Foundation, provided initial support along with NAS-NRC Program Initiation and Development Fund for NRC's Committee on National Statistics—Mar, 1

Russell, William L., of Oak Ridge National Laboratory, elected to National Academy of Sciences—May, 3

Ryther, John H., of Woods Hole Oceanographic Institution, agreed to serve on NRC's new Commission on Natural Resources—Apr, 7

Sagan, Carl, chairman of U.S. Organizing Committee for international conference held in September 1971 under a bilateral agreement between U.S. National Academy of Sciences and Academy of Sciences of the U.S.S.R.; edited conference proceedings *Communication with Extraterrestrial Intelligence, CETI*—Dec, 6

Sakharov, Andrei D., of Lebedev Institute of Physics, U.S.S.R., elected NAS foreign associate—May, 3; subject of Sept. 8 cables to President Keldysh of Academy of Sciences of the U.S.S.R. from NAS President Handler warning that harassment of Sakharov for his political expressions could impair efforts for U.S.-Soviet scientific cooperation—Aug-Sep, 1; October exchange of cables conveyed hopes of both academies for continued friendly scientific relations—Nov, 1

Saltzman, Bernard E., of University of Cincinnati Kettering Laboratory, participated in 1973 conference convened by NRC Assembly of Life Sciences as noted in report *Conference on Health Effects of Air Pollution: Summary of Proceedings*—Dec, 4

Sax, Karl, NAS member, died October 8, 1973—Nov, 4

Schad, Theodore M., formerly executive director of the National Water Commission, appointed executive secretary of the Environmental Studies Board, now a unit of the NRC's new Commission on Natural Resources (he succeeds R. A. Carpenter)—Nov, 3

Schade, Henry A., of University of California at Berkeley, elected to National Academy of Engineering—May, 7

Schaffner, Charles, vice president of Syska and Hennessy, Inc., engineers, and member of

NRC's Building Research and Advisory Board, chairman of BRAB advisory committee studying fire loads in large buildings—Jan, 1

Schorr, Lisbeth B., consumer spokesman and adviser on health delivery, Washington, D.C., elected to NAS Institute of Medicine—Aug-Sep, 9

Schultze, Charles L., of Brookings Institution, Washington, D.C., elected to NAS Institute of Medicine—Aug-Sep, 9

Science and Technology for International Development, Board on, NAS Office of the Foreign Secretary: Advisory Committee on Technological Innovation panel reported on *Ferrocement: Applications in Developing Countries*—Apr, 2; Advisory Committee panel reported on *Mosquito Control: Some Perspectives for Developing Countries*—May, 4; at AID request, an *ad hoc* panel of the Board, in collaboration with National Academy of Engineering, reported on *U.S. International Firms and R, D & E in Developing Countries*—Oct, 1; Special International Panel, convened by the Board in collaboration with the NAE, reported to AID on *Meeting the Challenge of Industrialization: A Feasibility Study for an International Industrialization Institute*—Dec, 2

Scientific Personnel, National Research Council's Office of, has completed its study with the NRC Advisory Committee on the Study of NIGMS Postdoctoral Fellowships and Traineeships in the Biomedical Sciences, *Postdoctoral Training in the Biomedical Sciences*—Oct, 7

Seamans, Robert C., Jr., formerly Secretary of the U.S. Air Force, took office May 15, 1973, as president of the National Academy of Engineering for a 1-year term (succeeding Clarence H. Linder)—Jun-Jul, 1; announced election of five new NAE Councillors and award of eighth Founders Medal to W. K. Lewis—Oct, 2

Seegmiller, Jarvis E., of University of California at San Diego, elected to National Academy of Sciences—May, 3

Segal, Irving E., of Massachusetts Institute of Technology, elected to National Academy of Sciences—May, 3

Segregation in Residential Areas: Papers on Racial and Socioeconomic Factors in Choice of Housing, papers commissioned by NRC Social Science Panel established at request of NAS-NAE Advisory Committee to the Department of Housing and Urban Development summarize the state of knowledge pertinent to the feasibility of racial and socioeconomic mixing and relevant in particular to the department's industrialized-housing demonstration "Operation Breakthrough." Papers indicate decrease in attitudinal barriers to neighborhood desegregation by race during the 1960s, while institutional barriers remain—thus individuals may have to accept more responsibility for ensuring that social institutions operate in a nondiscriminatory fashion, using fiscal, legal, and political means for a multifaceted attack on discrimination. The panel found questions of feasibility and desirability of socioeconomic mixing still unanswered—Feb, 2

Seismology, NRC Committee on, panel issued report *Strong-Motion Engineering Seismology: The Key to Understanding and Reducing the Damaging Effects of Earthquakes*—Oct, 3

Setlow, Richard B., chief of Section of Biophysics and Cell Physiology at Oak Ridge National Laboratory, elected to National Academy of Sciences—May, 3

Sharp, Robert P., of California Institute of

Technology, elected to National Academy of Sciences—May, 3

Sheldon, Eleanor B., of Social Science Research Council, New York City, elected to NAS Institute of Medicine—Aug-Sep, 9

The S-Hemoglobinopathies: An Evaluation of Their Status in the Armed Forces, NRC's Division of Medical Sciences *ad hoc* committee report, in response to U.S. Defense Department request for advice in establishing medically sound guidelines for sickle-cell screening, urges screening all armed-forces recruits for evidence of sickle-cell diseases as well as for other abnormalities, with results to be used solely for diagnosis and research. Report finds no scientific reason to exclude carriers of sickle-cell trait from hazardous duty, but urges quality genetic counseling and recommends two-year study on relationship of the trait to other disease states and on morbidity and mortality—Mar, 1

Sheps, Cecil G., of University of North Carolina, Chapel Hill, elected to NAS Institute of Medicine—Aug-Sep, 9

Shipbuilding Research and Development, NRC's Maritime Transportation Research Board panel report to U.S. Maritime Administration finds U.S. shipbuilding not competitive internationally and recommends high priority for research into managerial and economic aspects of the industry. MarAd productivity estimates unfavorable to U.S. shipbuilding led panel to urge devoting research and development funds largely to studies and pilot projects to increase productivity through improved management, with attention to better worker attitudes, greater volume of business, and industrywide research coordination. (J. T. Gilbridge and J. J. Henry, members of MTRB who reviewed panel's report, disagreed with this assessment and urged directing MarAd funds to ship design, marketing, and related marine technologies)—Jun-Jul, 10

Shklovsky, I. S., chief of Astrophysical Department, Institute of Space Research, U.S.S.R., elected NAS foreign associate—May, 3; quoted from *Communication with Extraterrestrial Intelligence, CETI*, proceedings of a joint conference held in September 1971 by U.S. National Academy of Sciences and National Academy of Sciences of the U.S.S.R.—Dec, 7

Siegmán, Anthony E., of Stanford University Microwave Laboratory, elected to National Academy of Engineering—May, 7

Simon, Herbert A., of Carnegie-Mellon University, appointed to executive committee of NRC's new Assembly of Behavioral and Social Sciences—Apr, 6; chairs Coordinating Committee on Air Quality Studies, responsible to NRC Commission on Natural Resources—Dec, 4

Sloan (Alfred P.) Foundation, grant supports the new National Academy of Sciences Resident Fellowship Program—Nov, 7

Smith, K. J., of National Cottonseed Products Association, quoted from symposium report *Alternative Sources of Protein for Animal Production*—Aug-Sep, 6

Smith, Kendrick C., of Stanford University School of Medicine, chaired *ad hoc* panel reporting on *Biological Impacts of Increased Intensities of Solar Ultraviolet Radiation*—Feb, 1

Smith, L. W., of Agricultural Research Service, quoted from symposium report *Alternative Sources of Protein for Animal Production*—Aug-Sep, 6-7

Smith, Lee I., NAS member, died March 29, 1973—Aug-Sep, 5

- Smith, Lloyd H., Jr., of University of California School of Medicine, San Francisco, elected to NAS Institute of Medicine—Aug-Sep, 9
- Smithsonian Institution: sponsors jointly with National Academy of Sciences and American Philosophical Society an anticipated 15-volume project *The Papers of Joseph Henry*, with support from the National Science Foundation—Feb, 6; arranged symposia "The Nature of Scientific Discovery" jointly with the National Academy of Sciences for 1973 NAS annual meeting in honor of the 500th anniversary of Copernicus' birth—Apr, 2
- social problems: see *The Earth and Human Affairs*; "Energy: Future Alternatives and Risks"; *Environmental Quality and Social Behavior: Strategies for Research*; *Geographical Perspectives and Urban Problems*; *Man, Materials, and Environment*; *Priorities for Research Applicable to National Needs*; *Segregation in Residential Areas: Papers on Racial and Socioeconomic Factors in Choice of Housing*; *Telecommunications Research in the United States and Selected Foreign Countries: A Preliminary Survey*
- Solow, Robert M., of Massachusetts Institute of Technology, appointed to executive committee of NRC's new Assembly of Behavioral and Social Sciences; agreed to serve on NRC's new Commission on Natural Resources—Apr, 7
- Somers, Anne R., of Rutgers Medical School College of Medicine and Dentistry, elected to NAS Institute of Medicine—Aug-Sep, 9
- space: see *Astronomy and Astrophysics for the 1970's, Volume 2: Reports of the Panels*; *Communication with Extraterrestrial Intelligence, CETI*; *HZE-Particle Effects in Manned Spaceflight*; *International Magnetospheric Study: Guidelines for United States Participation*
- Sparks, Morgan, of Sandia Laboratories, N.M., elected to National Academy of Engineering—May, 7
- Spoehr, Alexander, of University of Pittsburgh, appointed to executive committee of NRC's new Assembly of Behavioral and Social Sciences—Apr, 7
- Starbird, Alfred D., U.S. Army (retired), elected to National Academy of Engineering—May, 7
- Stark, Nathan J., of Crown Center Redevelopment Corp., Mo., elected to NAS Institute of Medicine—Aug-Sep, 9
- State, School, and Politics: *Research Directions*, proceedings of a 1970 research workshop under auspices of the Committee on Basic Research in Education of the National Academy of Sciences and National Academy of Education; excerpts from "Political Science and Education: The Long View and the Short" by Heinz Eulau—Jun-Jul, 8-9
- Steinberg, M. A., of National Marine Fisheries Service's Pacific Fisheries Products Technology Center, reported at 1972 symposium as noted in proceedings *Alternative Sources of Protein for Animal Production*—Aug-Sep, 6
- Stent, G., quoted from *Communication with Extraterrestrial Intelligence, CETI*, proceedings of a joint conference of U.S. National Academy of Sciences and National Academy of Sciences of the U.S.S.R.—Dec, 6
- Stevens, Rosemary, of Yale University School of Medicine, elected to NAS Institute of Medicine—Aug-Sep, 9
- Stevens, Russell B., executive secretary of the former NRC Division of Biology and Agriculture, named executive secretary of the new Division of Biological Sciences in the NRC Assembly of Life Sciences—Nov, 3
- Stevens, Stanley S., NAS member, died January 18, 1973—Feb, 3
- Steuer, Horton Guyford, director of National Science Foundation, elected to National Academy of Sciences—May, 3
- Strategy for Evaluating Health Services, A, (*Contrasts in Health Status, Volume 2*), Health Services Research Study, NAS Institute of Medicine, report describes the use of various conditions as tracers for evaluation of health services—Aug-Sep, 8
- Strong-Motion Engineering Seismology: *The Key to Understanding and Reducing the Damaging Effects of Earthquakes*, NRC Committee on Seismology's Panel on Strong-Motion Seismology, report finds strong-motion data for U.S. earthquakes inadequate for engineering purposes of safety design in structures, and calls for an increase of 2,000 strong-motion instrument stations (at least one fourth to be placed east of the Rockies). Approximately \$20,000,000 will be required over the next five years to fund the panel's proposed strong-motion program which includes efficient distribution of instruments, improved gathering and processing of data, and improved education in the use and application of data in addition to "immediate intensification of research into the causes and mechanisms of earthquakes"—Oct, 3
- Sturtevant, Julian M., of Yale University, elected to National Academy of Sciences—May, 3
- Substitute Catalysts for Platinum in Automobile Emission Control Devices and Petroleum Refining, report of Panel on Catalysts for Automotive Emission Devices and Petroleum Refining, NRC National Materials Advisory Board's Committee on Technical Aspects of Critical and Strategic Materials, predicts a likely doubling of U.S. annual platinum consumption for compliance with pending emission standards in 1975-76, and assesses technological potential of other catalysts as economic and efficient substitutes for platinum. While the panel found base metal catalysts inadequate at present for use in oxidizing and catalytic reforming reactors, report warns against premature lock-in with present systems—Aug-Sep, 10
- Supplementation of Human Diets with Vitamin E, statement issued by NRC's Food and Nutrition Board, prepared by its Committee on Nutritional Misinformation, warns against the recent fad for self medication with large amounts of vitamin E: "Misleading claims that vitamin E supplementation of the ordinary diet will cure or prevent such human ailments as sterility, lack of virility, . . . heart disease, muscular weakness, cancer, ulcers, skin disorders, and burns, are not backed by sound experimentation or clinical observations."—Oct, 6
- Sutherland, Ivan E., of Evans and Sutherland Computer Corp., Utah, elected to National Academy of Engineering—May, 7
- Swanson, Gordon I., of University of Minnesota's College of Education, chairs NRC Committee on Department of Labor Manpower R&D which has begun a study to review and assess the Labor Department's manpower research and development efforts—Oct, 1
- Technological Innovation, Advisory Committee on: maintained by NAS Board on Science and Technology for International Development under contract with U.S. Agency for International Development (AID) "to oversee a continuing search for, and assessment of, developments in fields of science and technology that may bear particular relevance to the solution of specific problems of developing countries"; in response to 1970 AID inquiry, the NAS committee convened an *ad hoc* panel to report on *Ferrocement: Applications in Developing Countries*—Apr, 2; at AID request, an *ad hoc* panel reported on *Mosquito Control: Some Perspectives for Developing Countries*—May, 4
- Telecommunications Research in the United States and Selected Foreign Countries: *A Preliminary Survey*, Panel on Telecommunications Research, NAE Committee on Telecommunications, report finds that space, military, and commercial telecommunications-research needs are well-addressed, but recommends that U.S. research in this area be reoriented to emphasize all social aspects of telecommunications—subjects as diverse as international trade, applications of new technology, and their impact on society—Oct, 2
- Thomas, Andrew L., practicing physician, Chicago, elected to NAS Institute of Medicine—Aug-Sep, 9
- Thomas, Patricia Z., pediatrician and biomedical researcher, appointed managing editor of *Proceedings of the National Academy of Sciences*—Nov, 3
- Thorne, Kip S., of California Institute of Technology, elected to National Academy of Sciences—May, 3
- Tilley, Cecil Edgar, NAS foreign associate, died January 24, 1973—Mar, 3
- Todd, W. Murray, staff officer for the NAS Foreign Secretary, appointed executive director of the NRC's new Commission on International Relations—Nov, 3
- Townes, Charles H., of University of California at Berkeley, former chairman of NRC Space Science Board, has been succeeded by R. M. Goody—Nov, 3
- Trager, William, of Rockefeller University, elected to National Academy of Sciences—May, 3
- transportation: see "BART Impact Program"; *Report by the Committee on Motor Vehicle Emissions*; *Shipbuilding Research and Development*
- Transportation, U.S. Department of: joins U.S. Department of Housing and Urban Development and the State of California in support of "BART Impact Program"; at DOT request, the National Academy of Engineering established the BART Impact Advisory Committee to evaluate course of the impact study—Jan, 2
- Tribus, Myron, of Xerox Corp. Information Technology Group, N.Y., elected to National Academy of Engineering—May, 7
- Tufte, Edward R., associate professor of politics and public affairs, Princeton University, research director for NRC's Committee on National Statistics now considering statistical problems in public administration—Mar, 1
- Turner, Howard S., of Turner Construction Co., N.Y., elected to National Academy of Engineering—May, 7
- T**aussig, Helen B., of Johns Hopkins Hospital, elected to National Academy of Sciences—May, 3
- U**man, Myron F., of University of California at Davis, working on organization of Board of Energy Studies in NRC Commission

on Natural Resources under the new NAS Resident Fellowship Program—Nov, 7

U.S. Geodynamics Committee, of the NRC Geophysics Research Board, urges U.S. participation focusing on plate tectonics in ICSU's six-year, worldwide Geodynamics Project in its report *U.S. Program for the Geodynamics Project: Scope and Objectives*—Oct, 2

U.S. International Firms and [R]esearch, [D]evelopment & [E]ngineering in Developing Countries, Ad Hoc Panel of NAS Board on Science and Technology for International Development, with collaboration of the National Academy of Engineering, report responds to U.S. Agency for International Development request "to examine the past and potential role of U.S. firms in strengthening the research, development, and engineering capabilities in developing countries" and concludes that nascent national economies and multinational corporations would find it in their mutual self interest to foster cooperative and proprietary R, D & E programs. Report recommends that U.S. firms relate their affiliates' activities to host countries' development goals, priorities, and strategies, while host countries should encourage this process by fostering consultation and interaction between the government, the scientific sector, and the productive sector—Oct, 1, 4-5

U.S. Program for the Geodynamics Project: Scope and Objectives, U.S. Geodynamics Committee, NRC Geophysics Research Board, report proposes a U.S. Government commitment to U.S. participation in the International Council of Scientific Unions' six-year, worldwide Geodynamics Project, and urges extensive work on plate tectonics in a systematic attempt to understand movements and forces of the earth's surface and near-surface and to address apparent contradictions in the theory. Report recommends that activities constituting the program be determined by U.S. Geodynamics Committee in consultation with government agencies, academic institutions, geoscience societies, and industry, with continuing re-examination of study priorities and 20-percent increase in Federal funding—Oct, 2

Utter, Merton F., of Case Western Reserve University, elected to National Academy of Sciences—May, 3

Van Valkenburg, Mac Elwyn, of Princeton University, elected to National Academy of Engineering—May, 7

Vandiver, Harry S., NAS member, died January 4, 1973—Feb, 3

Veney, James E., of University of North Carolina, now working in the Institute of Medicine under the new NAS Resident Fellowship Program—Nov, 7

Virtanen, Artturi I., NAS foreign associate, died November 11, 1973—Dec, 6

Vosburg, Albert, served on staff of NAS Office of Science and Technology, now associate

executive director of the NRC's new Assembly of Life Sciences—Nov, 3

Wadleigh, Cecil H., of U.S. Department of Agriculture, elected to National Academy of Sciences—May, 3

Wagner, Aubrey J., of Tennessee Valley Authority, elected to National Academy of Engineering—May, 7

Waksman, Selman A., NAS member, died August 16, 1973—Aug-Sep, 5

Walker, Robert M., of Washington University, elected to National Academy of Sciences—May, 3

Wallace, Anthony F. C., of University of Pennsylvania, elected to National Academy of Sciences—May, 3

Ward, Paul D., of California Committee on Regional Medical Programs, Oakland, elected to NAS Institute of Medicine—Aug-Sep, 9

Warner, John C., Carnegie-Mellon University president emeritus, chaired Shipbuilding Research and Development Panel of NRC's Maritime Transportation Research Board reporting on *Shipbuilding Research and Development*—Jun-Jul, 10

The Water's Edge (MIT Press, 1972), report of 1972 Woods Hole Workshop on Critical Problems of the Coastal Zone, noted that magnitudes, sources, and fates of petroleum in coastal zones were yet to be determined—Feb, 2

Watson, D. M. S., NAS foreign associate, died July 23, 1973—Oct, 6

Watts, Malcolm S. M., of University of California School of Medicine at San Francisco, elected to NAS Institute of Medicine—Aug-Sep, 9

Weather and Climate Modification: Problems and Progress, Review Panel on Weather and Climate Modification, NRC's Committee on Atmospheric Sciences, omnibus report on developments in the field since 1966 and prospects through the 1970's reiterates committee's earlier recommendation for examination of public-policy issues inherent in weather modification, urging a major study by the National Advisory Committee on Oceans and Atmosphere of these issues and the Federal organization and legislation necessary to cope with them. Report recommends a coordinated national program with definite research goals: identification by 1980 of conditions for changing precipitation patterns with artificial ice and condensation nuclei; development of technology to mitigate weather hazards; establishment of a coordinated national and international system for investigating inadvertent effects of man-made pollutants. Urging Federal budgeting to double current efforts in the field, panel also recommended that the National Oceanic and Atmospheric Administration be assigned administrative responsibility for the proposed program, with continued research support from the

National Science Foundation—Aug-Sep, 4-5

Weather and Climate Modification: Problems and Prospects, NRC's Committee on Atmospheric Sciences, 1966 report noted "increasing but still somewhat ambiguous statistical evidence" of effectiveness of cloud-seeding to change precipitation patterns—Aug-Sep, 4

Welt, Louis G., of Yale University School of Medicine, elected to NAS Institute of Medicine—Aug-Sep, 9

Whitaker, Douglas M., chairman of National Research Council, 1950-51, died October 5, 1973—Nov, 4

White, Donald E., of U.S. Geological Survey, elected to National Academy of Sciences—May, 3

White, Gilbert F., of University of Colorado at Boulder, named to serve on NRC's new Commission on Natural Resources—Apr, 7; elected to National Academy of Sciences—May, 3

White, Kerr L., of Johns Hopkins University School of Hygiene and Public Health, elected to NAS Institute of Medicine—Aug-Sep, 9

Wildgen, J. Jerome, practicing physician, Kalispell, Mont., elected to NAS Institute of Medicine—Aug-Sep, 9

Williams, Carroll M., Harvard University biologist, elected to NAS governing Council for 3-year term beginning July 1, 1973—May, 1

Williams, Robin M., Jr., of Cornell University, appointed to executive committee of NRC's new Assembly of Behavioral and Social Sciences—Apr, 7

Willier, Benjamin H., NAS member, died December 3, 1972—Jan, 6

Wilson, E. Bright, of Harvard University, general chairman of NRC Ocean Affairs Board study group which planned May 1973 workshop to assess current information on petroleum and petroleum products in the ocean and their effects—Feb, 2

Wintrobe, Maxwell M., of University of Utah School of Medicine, elected to National Academy of Sciences—May, 3

Wolman, M. Gordon, of Johns Hopkins University, quoted from NAS-NRC Committee on Geography symposium proceedings published as *Geographical Perspectives and Urban Problems*—Mar, 6

Wyngaarden, James B., of Duke University Medical Center, N.C., elected to NAS Institute of Medicine—Aug-Sep, 9

Yancey, Asa G., of Grady Memorial Hospital, Atlanta, Ga., elected to NAS Institute of Medicine—Aug-Sep, 9

Zadeh, Lotfi Asker, of University of California at Berkeley, elected to National Academy of Engineering—May, 7

